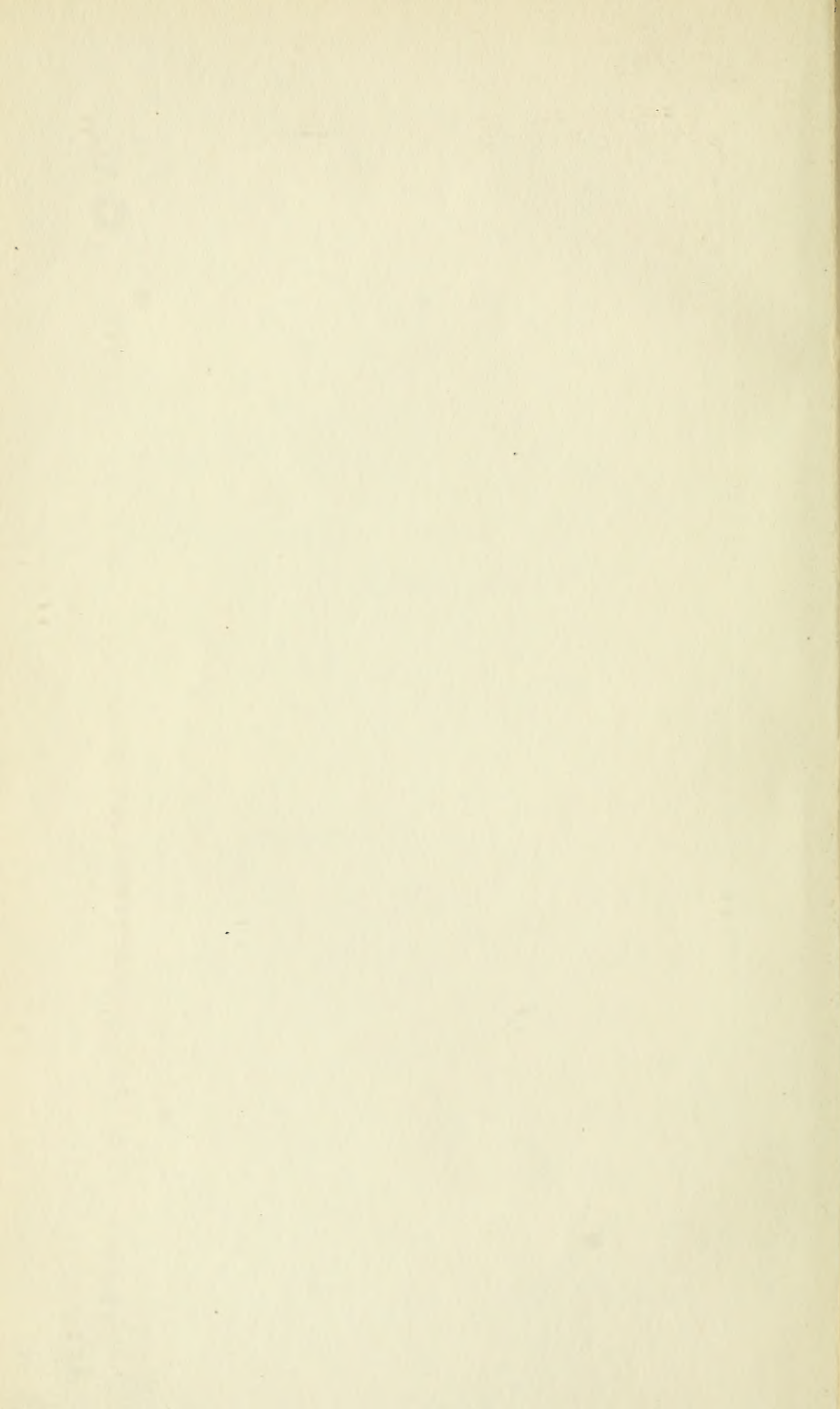


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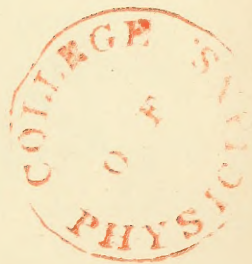
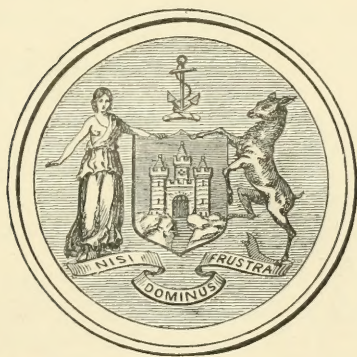


EDINBURGH MEDICAL JOURNAL,

COMBINING
THE MONTHLY JOURNAL OF MEDICINE
AND
THE EDINBURGH MEDICAL AND SURGICAL JOURNAL.

VOL. XV.—PART I.

JULY TO DECEMBER 1869.



EDINBURGH:
OLIVER AND BOYD, TWEEDDALE COURT.
LONDON: SIMPKIN, MARSHALL, AND CO.

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THE
EDINBURGH
MEDICAL JOURNAL.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Traumatic Varicose Femoral Aneurism successfully treated by Ligature.* By JAMES SPENCE, Esq., F.R.S.E., Surgeon to the Queen in Scotland, President of the Royal College of Surgeons of Edinburgh, Professor of Surgery in the University of Edinburgh.

THE following case appears to me to be worthy of publication, as I can find no mention of any instance of traumatic varicose femoral aneurism which has been treated on the same principles, whilst the method of treatment generally recommended, and which has been hitherto almost invariably adopted in such aneurisms at the bend of the arm, seems to me to be inapplicable, or at least attended with grave risks in the case of the femoral.

On Thursday, 26th March 1868, I was requested by Mr Miller, surgeon, Rankeillor Street, to visit Robert K——, a youth who had received a wound in the thigh about three weeks previously. Accordingly I met Mr Miller and Dr Littlejohn in consultation. Mr Miller, who had been called to the lad immediately after the injury, gave me the following account:—

“I was hastily called by the police to the shop of Mr Prentice, druggist, 126 Nicolson Street, on the afternoon of Wednesday, 4th inst. (March 1868), to see Robert K——, aged fifteen years, of Graham Street, who had been stabbed with a spear-pointed knife by a school-fellow. Supported by a man he had walked from Buccleuch Street, and had fainted by the way from loss of blood. I found him lying on two chairs, very pale and faint, in consequence of profuse hæmorrhage issuing from a wound in the upper and anterior aspect of the

right thigh. The wound, which extended obliquely upwards, was about three quarters of an inch in length, and one inch and a half in depth. After stopping the hæmorrhage and dressing the wound, I had him conveyed home in a cab. He progressed very favourably, and in ten days the wound had entirely healed, though the patient still continued weak. Perfect rest was still enjoined, but after a few days he could not be restrained from going out and walking about, though rendered lame by slight pain and stiffness of the tendons at the back of the limb, which, however, improved every day. He called on me on Monday, 23d inst., and stated that he had been to Leith on the previous Friday, that he had walked hurriedly home from the station, and for the first time felt 'a beating' in the part, but no pain. On examination, a little above the wound, I found a pulsating tumour, which I diagnosed as a false aneurism. He was ordered home, and enjoined perfect rest and quietness."

I found the patient a lad of slender form, and tall for his age, of delicate appearance, and somewhat anæmic. On examining the right thigh, I observed a cicatrix as of a recent punctured wound, situated on the outer border of the sartorius muscle, five inches and eight lines below the middle of Poupart's ligament. Extending from the puncture there was a pulsating swelling, not very prominent, somewhat flattened, of an elongated oval form, two and a half inches long by one and three-quarter inches broad. About two inches of the swelling were on the proximal side of the wound, *i.e.*, towards Poupart's ligament, and about half an inch on the distal side. Besides this distinct pulsating tumour, there was also an undefined fulness on the inside of thigh, close up to Poupart's ligament, caused by the dilated femoral vein, and the upper part of internal saphena was also dilated. The aneurismal swelling at the wound was seen to pulsate, and the pulsation was very strong when the hand was placed on the tumour, and accompanied by a most peculiar thrill, almost startling, when first felt. On using the stethoscope, besides the "blowing" sound, there was also heard a loud buzzing or whizzing bruit, which has been not inaptly compared to the noise made by a "blue-bottle fly confined in a paper bag." This latter sound was so loud as to be heard even at a little distance, and without the stethoscope. The thrill and whizzing murmur extended upwards from the wound both in the aneurismal tumour, and also in the dilated femoral vein as high nearly as Poupart's ligament, but they were much less distinct in the lower part of the aneurism—only barely appreciable. The pulsations of the anterior and posterior tibial arteries seemed rather weaker than in the sound leg. The patient felt the limb somewhat cold, but the thermometer showed no difference in the actual temperature.

I directed that he should be kept perfectly quiet in bed, with the thigh flexed on the pelvis, and that graduated compression should be maintained upon the common femoral artery, at the brim of the pubes,

where it emerges from the abdomen, by Carte's compressor, modified so that the pressure was made by means of a leaden weight instead of the full screw action. He was ordered to have a nutrient, non-stimulating diet, consisting of milk, with white of eggs, and farinaceous and a little animal food. Under this treatment the pulsations and bulk of the aneurism diminished, but I found that the compression, though as far as possible limited to the artery, interfered with the venous circulation, and gave rise to so much pain and swelling in the thigh, and irritation of the inguinal glands, that it was obliged to be abandoned. Ice was then applied over the swelling and to the groin, and was beneficial in allaying the irritation resulting from the compression, but it had little effect on the aneurism; and I therefore determined to operate so soon as the local irritation was subdued.

I had from the first contemplated the probability of an operation being required, and had carefully weighed in my mind what method of procedure I should adopt, and had decided, for reasons which I shall explain hereafter, to tie the superficial femoral above and below the aneurism without opening the sac. Accordingly, on the 8th of April 1868, assisted by Drs Dunsmure, Gillespie, Littlejohn, Taylor, and Mr Miller, I proceeded to perform the operation I had planned. The patient being put under the influence of chloroform, I made an incision $7\frac{1}{2}$ inches long, commencing about 2 inches below the middle of Poupart's ligament, and continued downwards in the course of the femoral artery. This incision passed over the long axis of the aneurism, and crossed the course of the sartorius muscle, so that I might reach the artery under the inner border of that muscle at the upper part, and under its outer margin at the lower part of thigh. In making my incision I was careful to cut lightly over the tumour, so as not to divide more than the skin and fat. I next proceeded to clear the artery in the lower part of Scarpa's triangle. In doing so I found the parts more matted together and thickened, and the depth increased from the plastic and serous effusion to a much greater extent than the external appearances would have led me to expect. I required to take great care in clearing and drawing aside the inner edge of the sartorius, which, instead of being loosely connected as usual, was adherent. The sheath of the artery, however, was not so affected, and was readily recognised and carefully opened, and the artery cleared for passing the aneurism-needle. The vein, much distended, was felt bulging under the artery. The armed needle was then carefully passed round the vessel, the ligature left *untied*, and the ends held by an assistant. I next proceeded to tie the femoral below the aneurism in Hunter's canal. The fascia over the outer edge of the sartorius was freely divided, and the edge of the muscle cleared. Here a difficulty occurred, not from adhesion of the margin of the muscle at the part cleared, but owing to the body of the muscle over the aneurism being blended with the tumour, and forming part of the false sac. I found I could not turn over the muscle or draw it aside, so as to expose the

aponueurosis covering the artery, without using such force as would have endangered breaking up the limitation of the aneurism. I had, however, foreseen this difficulty, and accordingly I divided about half the breadth of the sartorius, so as to expose and reach the vessel, which here lay very deep, the depth being increased by the proximity of the aneurismal tumour, as I wished to tie the artery as close to that as I could. When I had passed this ligature, I tied it firmly, and then proceeded to tie the upper ligature, which had also been applied as close as possible to the swelling. So soon as the upper ligature was tightened, all pulsation and sound ceased, and the appearance of tumour was almost effaced. The long wound was then closed by points of suture, a slip of dry lint placed over it, and retained by slips of adhesive plaster; the foot, leg, and knee were wrapped in cotton wadding, and the patient placed in bed, with the knee very slightly bent, and laid on its outside on a soft pillow.

When he recovered from the chloroform he was a little sick, and vomited. An opiate was administered. The milk and farinaceous diet was ordered to be continued. The patient progressed very favourably, and required little treatment, except medicine and enemata to act on the bowels, which were very constipated, so as to prevent straining at stool, and the wound healed well. No marked alteration in the temperature of the limb occurred after the first two days. On the twelfth day after the operation, the lower ligature came away when I was dressing the wound, and without any appearance of blood. Slightly stimulating lotions were used to wash the points of the wound which had not cicatrized, and support was given by strips of adhesive plaster. On the 25th of April I had to leave for London, and I visited him on that day (the eighteenth after the operation). He was looking well and cheerful; pulse 86, and soft, and his tongue clean; the wound looked well,—in fact, except where the upper ligature hung out, and one or two other points, it had united; and I considered him almost, if not altogether, out of danger. I left Dr Dunsmure, who took charge of my cases, to look after him as regarded the surgical treatment. From that gentleman I received a letter, informing me of a somewhat unexpected and sudden change in the progress of the case:—

“You left on Saturday the 25th. On Sunday I got a note saying that after straining at stool, four drachms of blood had come from the incision. On visiting him I found no trace of hæmorrhage at either of the ligatures, but the wound had opened over the sac, and a lot of blood was lying in it; his pulse was quick, 120, and his skin hot. Mr Miller had ordered him aconite, which made him sick. All that I did was to enjoin quiet, cold to the wound; and, as his tongue was loaded, I ordered him a blue and compound rhubarb pill. On Friday, when I saw him with Mr Miller, he looked more than usually pale, and his pulse was still quick, but the skin and tongue were better. He had had pain in the right side, and some cough, both of which were relieved by a poultice. I

ordered him a better diet, wine (claret) and iron, and to-day his pulse is 96; the wound is almost healed, the part over the sac is healthy, and I have no fear of him. I took hold of the ligature, but it is not yet sufficiently loose to come away."

After this the bad symptoms seem to have disappeared, and, on my return to Edinburgh on the 11th May, I found him looking very well, the wound healed, except at the ligature, which I found was lying loose, and therefore removed it. From this time nothing worthy of record occurred. He was allowed to walk at first with a crutch, and subsequently to use the limb. He was lame for some time owing to the stiffness of the knee, but this gradually disappeared, and he now uses the leg perfectly. For some time after the operation I directed him to use a flannel roller to support the venous circulation in the limb. The cicatrix was narrow and firm; not the slightest pulsation or bruit to be felt or heard, no appreciable venous congestion, and his general health excellent.

To-day (10th June 1869) I examined Mr K——. As already stated, the aneurism is thoroughly cured; not the slightest pulsation or thrill can be felt; but the appearance of the limb indicates some obstruction or alteration in the venous circulation of the part. The right thigh is greater in circumference by one inch than the left. The swelling is neither tense nor œdematous, but soft and elastic. The cicatrix is thinner and broader than it was eight months ago; whilst towards the groin numerous small superficial veins are seen dilated and slightly tortuous; but the common femoral and great saphena veins, which were distended and varicose before the operation, seem now of their normal size.

Remarks.—Since the time that Dr William Hunter first drew attention to the subject, numerous observations have been recorded in reference to the pathology and treatment of varicose aneurisms, but, with few exceptions, these have been cases in which the disease was situated at the bend of the arm, and in most of them the operative procedure has been the same as that for ordinary false aneurism in the same position—viz., laying open the sac and tying the wounded artery above and below the opening; and in some of the cases ligature of the affected vein has also been practised.

In one or two cases the brachial at the middle of the arm has been tied, but not with results that encourage repetition of the Hunterian method. Indeed, in the upper extremity the ligature of the wounded brachial artery above and below the opening, and gentle compression of the injured vein, answers sufficiently well, and the operation is not likely to be attended with bad results. It is, however, very different with regard to such aneurisms in the femoral region.

All surgical authorities are agreed as to the great danger which attends obstruction of the femoral artery when complicated with any lesion of the accompanying vein, gangrene being the almost

invariable result. So much have the risks of such a complication influenced practice, that even in cases of ordinary traumatic false aneurism of the femoral, in the position of Hunter's canal, an exception has been made to the general rule of operating in false aneurism by direct incision into the sac. Thus, in cases where the traumatic aneurism is of some standing, and the parts condensed, it is considered better, in the case of the femoral artery, to tie the vessel by the Hunterian method in Scarpa's triangle, lest, from the close proximity of the vein and the condensation and matting of the wounded parts, the latter vessel might be injured in operating by the direct method; and Professor Syme and others have recorded cases showing the success of such treatment.

In considering what method of operation I should follow in the case of K——, I could find but little information in surgical works as to the treatment of traumatic varicose aneurism of the femoral, either as regarded general principles or the results of actual practice. As I have already said, most of the observations of Hunter, Park, Hodgson, Breschet, Sabatier, and Dupuytren, had reference to varicose aneurisms at the bend of the arm, and the general rule laid down, as drawn from such cases, was to open the sac and tie the vessel as in false aneurism—a rule repeated, I see, in the last edition of Professor Erichsen's "Surgery," as applicable to varicose aneurisms generally.

The only author who differs from this practice is the late Mr Lizars, who, speaking of this form of aneurism at the elbow, advises tying the artery above and below the wounded point without opening the sac. His reason is, the risk of phlebitis, if we interfere with the vein; and I recollect seeing him perform this operation in a small varicose aneurism of the brachial in the Royal Infirmary. At the bend of the arm, however, the results of the ordinary operation have shown that the risk Mr Lizars dreaded was so slight that his plan has not been generally followed.

In looking to the history of cases of this aneurism in the thigh, I could find very few cases recorded, still fewer where any operation had been performed. Several of the cases which had done well without treatment were evidently cases of aneurismal varix, and not of varicose aneurism. It is essential to remember, in reference to treatment, that whatever symptoms these two diseases may have in common, such as the peculiar "bruit," the state of the veins in the affected limb, or in regard to the constitutional effects consequent on admixture of venous with arterial blood, they differ in this important feature, that in aneurismal varix we have the vein and artery closely adherent and communicating directly, and that, although both vessels undergo dilatation and some alteration in structure and function, there is no aneurismal tumour involving the risks incident to all aneurisms, and consequently in it all that is generally required is moderate support to the venous circulation by bandages, elastic or laced

stockings. In varicose aneurism, on the contrary, the false sac, which communicates with both vein and artery, has a constant tendency to increase, burst, and diffuse its contents into the limb, or else lead to ulceration of the skin and fatal hæmorrhage.

The records of traumatic varicose aneurism of the femoral or popliteal are very meagre. I can find only two cases detailed, and one doubtfully alluded to by Sabatier. Both the detailed cases were in the popliteal artery. One case occurred under M. Larrey, Director of the Military Medical School at Toulouse, and uncle of Baron Larrey. In that case amputation was performed. In the other case, under the care of Dr Dorsey of Philadelphia, the disease followed a gunshot wound. The femoral artery was tied in the middle of the thigh, and hæmorrhage supervened and destroyed the patient. Mr Hodgson, in his work on the bloodvessels, suggests that ligature of the femoral in Scarpa's triangle would be the proper plan of treatment. The diminution of the force of the blood after the ligature, he thinks, would favour the formation of a coagulum, which would finish by filling up the sac, and obliterate its opening of communication with the vein; but he adds, "I do not think, however, that any one has yet tried this operation."

Since operating on the lad K——, I have learned from Mr Paget that Mr Lawrence operated by Hunter's method in a case of varicose aneurism of the thigh; but gangrene came on, amputation was found to be necessary, and the patient died. There is a brief notice of the case in the Catalogue of the Museum of St Bartholomew's Hospital, vol. ii., Description of Casts; but there are no details given.

In deciding on the method I should adopt, when I found that compression could not be continued with any hope of success, it appeared to me that I could scarcely trust to ligature of the superficial femoral in Scarpa's triangle; for, though I believe that to be the safest procedure in certain cases of simple traumatic aneurism in the thigh, the conditions are very different in the varicose. In a simple traumatic aneurism of the femoral artery in the middle region of the thigh, where some time has elapsed after the injury, the dense aponeurotic structures, confining the wounded vessel and extravasated blood in a narrow space, assisted by the condensation of the surrounding cellular tissue resulting from plastic effusion, serve to form an amount of limitation and circumscription almost equal to the sac of a true aneurism, and to favour consolidation of the blood-clot; so that when the force of the direct blood-current is shut off, gradual consolidation and obliteration take place, as in cases of true aneurism. In traumatic varicose or arterio-venous aneurism, on the other hand, whilst we may have similar limitation as regards the surrounding parts, we must keep in mind that through the interior of the sac there is a communication more or less free with the large femoral vein; so that the retrograde current of blood will meet with no resistance in that direction. Complete consolidation of the

contents of the sac could scarcely be looked for, and, as the collateral circulation enlarged, the retrograde current would become stronger, and, in all probability, the diseased condition would be re-established.

The plan generally adopted in varicose aneurisms at the bend of the arm I have already indicated as being inapplicable in the thigh; for if surgeons avoid operating in the usual manner for ordinary traumatic aneurisms of the femoral, from dread of injury to the vein, what is only a risk in that case becomes a certainty in varicose aneurism; because in it the artery and vein already communicate in the sac, and opening the sac, therefore, implies more or less interference with the vein, and would be followed by the usual bad results. Careful consideration of these circumstances induced me to adopt the plan of tying the femoral artery above and below the sac, in such a manner as to avoid opening or injuring it, by the operative procedure I have described in the case. By doing so, I trusted that all arterial retrograde circulation would be obviated, that coagulation of the contents of the sac would take place, and that the wound of the vein communicating with the sac would thus be closed, and that the venous circulation would be restored to its natural channel. So far as the artery is concerned, my expectations have been fulfilled, and the aneurism is thoroughly cured; but, judging from the present appearance of the limb, some slight obstruction to the venous circulation would seem to exist, and, though not productive of any inconvenience at present, will require to be remedied by the use of an elastic stocking to support the returning column of blood, and so avoid any tendency to varix.

From a full consideration of the general principles on which the method of operating I have described is founded, as well as from the successful result of the case narrated, I feel satisfied that it is the proper mode of procedure in cases of varicose aneurism.

In closing, I would merely advert to the sudden and unexpected invasion of peculiar and serious constitutional symptoms so late as the nineteenth day. I do not pretend to speak decidedly, but my first impression when I received Dr Dunsmore's letter was, that some small detached portion of the contents of the sac had found its way into the vein, and given rise to embolism, although the favourable termination of the symptoms scarcely warrant that idea; and, possibly, it was mere febrile disturbance, due to some irregularity in diet.

ARTICLE II.—*On the Rare Mobility of Intra-pelvic Parametric Phlegmon and Abscess.* By J. MATTHEWS DUNCAN, M.D., Corresponding Member of the Gynæcological Society of Boston, U.S.

THE kind of mobility here implied is not mere susceptibility of displacement, but such freedom of motion as is observed in a healthy unimpregnated uterus, or in an ovary having no adhesions.

Perimetric indurations and perimetric collections of serum or pus have never any mobility of this latter kind; but they are sometimes susceptible of evident movement by displacement—that is, they can be partly pushed and partly altered in shape, so as really or virtually to move. This kind of movement of a perimetric serous collection, I have described in my treatise on Perimetritis and Parametritis (p. 71). In the case there referred to, displaceability was present to an extraordinary degree, and led to a misconception of the nature of the disease.

Speaking of the occasional displaceability of a perimetric collection in the passage referred to, I add the following words, which are pertinent to the mobility of parametric phlegmon and abscess, the subject now under discussion: “According to Nonat, there is sometimes full mobility of a parametric phlegmon; but though I have rarely thought I observed the same, I am not disposed to assert it, as Nonat does.” Elsewhere in the same work (p. 60), I make the following statement: “In some cases of the disease under consideration, there is not only hardness, but tumour also; sometimes abscess, with mobility, without fixation. Such cases I believe I have seen, but they are undoubtedly rare—very rare.”

The ordinary belief that parametric abscess is never movable, is well expressed by West, in his *Lectures on the Diseases of Women* (3d edition, p. 429). Speaking of what he designates inflammation in a broad ligament, he says: “At no time is this swelling so circumscribed that its border can be distinctly traced, nor is it movable like a fibrous tumour of the womb, or an enlarged ovary, but it is felt like a hard mass, extending laterally to the inner surface of the pelvic wall, and firmly adherent to it.”

Although Nonat distinctly asserts the mobility of parametric phlegmon, yet he seems to me to have very erroneous views regarding this condition. I shall give his own words in a translation of a passage in his work on *Diseases of the Uterus* (p. 268). “Some of these tumours,” says Nonat, “are mobile, free of all adherence with the neighbouring parts, a circumstance which allows of their being better isolated by impressing on them more or less extensive movements; others, on the contrary, contract adhesions more or less intimate with the surrounding tissues, but which, however, are not always sufficiently strong to render the tumour immovable. These partial adhesions occupy generally one of the extremities of the tumour, while the other extremity remains free. Thus we find some which adhere to the body of the uterus by their internal surface, while their external surface remains independent. Others,

developed in the broad ligaments, stick in a fixed way to the walls of the pelvis by their external surfaces, while they are free on their internal surfaces. In certain cases—rare, it is true—these tumours adhere in part to the uterus, in part to the walls of the pelvis, to the small intestines, to the bladder; jammed, so to speak, in the midst of all these parts, they become almost immovable.” I shall now consider this passage only so far as it touches the single point of mobility or fixation, taking no notice of other statements in it, with which I may either coincide or not. It is evident that Nonat makes no distinction between mobility and displaceability, as I have done—a distinction which appears to me to be essential to the entertainment of correct and exact views. Further, Nonat appears to me to consider mobility a common condition, if not, indeed, the ordinary state of the whole or of a part of a parametric phlegmon; and in this, his view differs from that of almost all gynecologists and of myself. He evidently regards a phlegmon which adheres to the pelvic wall as in part at least susceptible of free movement; and here, again, I cannot at all agree with him.

While, then, I have cited Nonat as unquestionably asserting the mobility of parametric phlegmon, I must add that his views regarding this mobility are very different from those generally entertained, and from my own; and are inconsistent with facts.

The following case is, in my opinion, a distinct example of the rare free mobility of an intra-pelvic parametric abscess. It was under constant careful observation and consideration while it lasted. The diagnosis of parametric abscess was made at the first examination, and subsequent events fully confirmed the view, putting it almost if not altogether beyond doubt or possibility of cavil. It surely cannot be imagined to have been a case of ovarian abscess, for it was not in the situation of the ovary; it caused little constitutional disturbance; it was never very tender. Besides, I do not believe that any case of acute ovaritis lasts for weeks and ends in suppuration without fixing adhesions being formed around the organ. Yet I do believe that a phlegmon may occur in the cellular tissue over the roof of the vagina, and may suppurate, without becoming at any time fixed or immovable. Fixation in such a case may be caused by perimetric adhesions, or, without these, by inflammatory induration, extending from the centre of the phlegmon or abscess to the pelvic wall. In the following case of parametric abscess, I believe both these kinds of fixation were absent. The abscess was movable upwards and downwards during its maturation. After it had spontaneously evacuated its contents per vaginam, and consequently become much reduced in size, its mobility was increased. The hand examining externally, above the left pubic horizontal ramus, could easily feel the hard lump, but could not discover its mobility. A combined external and vaginal examination made its free mobility evident, not to myself only, but also to other physicians examining it. Seized thus, between the fingers of the two hands,

it could be moved easily upwards and downwards, as the healthy unimpregnated uterus or a large non-adherent ovary can.

The bursting of the abscess per vaginam is probably corroborative evidence of its parametric nature; for I am of opinion, that while perimetric abscesses may naturally be expected to burst per rectum, a parametric abscess, such as this, will naturally burst into the nearest passage; and in this case the vagina was the nearest, and thither the pus made its way.

Mrs E., æt. 26, has been married five years, and has had three children, the last of whom was born six weeks before her admission into the Royal Infirmary. The labour was natural; the lochia are said to have ceased flowing on the third day after delivery. On the same day she had shiverings, and began to feel pain in the whole lower belly, especially near the left groin. She has been ailing and much confined to bed ever since then. She has pain in urination and defecation. She has the appearance of a fine healthy woman suffering from temporary ill health. There is only little constitutional disorder.

The hypogastric regions are natural, soft, and without tenderness, except above the horizontal ramus of the left pubic bone, where there is a slight extent of dulness on percussion, hardness, and tenderness.

Examination per vaginam discovers the body and cervix of the uterus pushed backwards and to the right side. The left anterior quarter of the brim of the pelvis is occupied by a distinct rounded swelling, which can be made out to be the cause of the hardness felt above the horizontal ramus of the left pubic bone. This mass and the uterus are distinctly mobile when caught between the fingers of one hand examining per vaginam, and those of the other hand applied over the tender hypogastric hardness above described. This examination is very painful. The uterine sound discovers patency of the left Fallopian tube.

The hypogastrium is to be kept constantly poulticed, the woman being confined to bed.

Improvement of general health steadily went on after this, but there was no change in the intra-pelvic tumour till twenty-eight days after admission, or eighty days after delivery; then a large sudden escape of pus took place per vaginam.

This discharge seemed to make little change in the woman's symptoms, but local examination discovered great diminution in the size and tenderness of the tumour and return of the uterus to its natural situation. Both uterus and tumour were freely movable.

The woman left the hospital in perfect health three weeks after the spontaneous bursting of the abscess. The words of the last note taken of her case just before her departure, are as follows: "Examination per vaginam is now easily and perfectly made from the absence of all sensitiveness and tenderness. The uterus is quite freely mobile, much more so than before. At its left side, where a

globular tender tumour existed, there is now only a distinct hardness, with no definite bulk."

It requires to be added, that the increase of mobility now noted arose from the roominess produced by disappearance of the tumour occupying the pelvic space.

ARTICLE III.—*Case of Strangulated Hernia, with Perforation of the Bowel, in which the Occlusion of the Aperture by Ligature was successfully adopted.* By PATRICK HERON WATSON, F.R.S.E., F.R.C.S.E.; Lecturer on Surgery, Royal College of Surgeons; Surgeon to the Royal Infirmary and Chalmers Hospital.

ON Monday the 22d February, Dr Littlejohn received a telegram from Dr Bell of Kettle, in Fife, summoning him to his relative Miss W., and requesting him to bring me along with him, to operate upon her for a strangulated hernia.

On reaching our destination about midday, we found the patient, an active woman of spare habit, but upwards of sixty years of age, in a state of prostration bordering on collapse. The abdomen was tense and tender, the pulse still hard in stroke, becoming frequent in number, but small in volume, constant hiccough and vomiting, a flushed face, a dry tongue, a feeble whispering voice, and copious general diaphoresis. The hernial tumour which occupied the right femoral space was ovoid, lying along the line of Poupart's ligament, tense and tender to touch, the surface slightly reddened, and the cutaneous textures agglutinated to the parts beneath. Her history was one of old reducible hernia, for which she never wore a truss. She stated that when in Kettle, seventy-two hours previous to our visit, she felt the rupture start in her groin, occasioning pain and a sense of faintness; that she returned home immediately, and attempted to reduce the swelling, but without effect; that about 9 P.M. vomiting set in, and that ever since she had suffered from intense twisting anguish in the region of the umbilicus, with constant retching, and latterly hiccough. To relieve these symptoms she had taken aperient medicine, which had been ejected by vomiting, and had applied warm fomentations to the belly. It was not until seven hours before the period of our visit that Miss W. sent for Dr Bell, who at once, on examining her, telegraphed to Edinburgh for Dr Littlejohn and myself.

The condition of matters rendered an immediate recourse to operation imperative. Accordingly, having administered chloroform, I proceeded, with the assistance of Drs Littlejohn and Bell, to operate in the usual manner. On opening the sac, a quantity of claret-coloured muddy fluid escaped, and on exposing the contents, which consisted only of bowel, and sponging its surface, we found it presented a dark-chocolate colour, with its glistening serous surface obscured by a white or rather ash-gray "bloom." The texture of the bowel was soft, and manifestly admitted of no rude handling.

The probe-pointed bistoury was accordingly guided with the greatest gentleness beneath the stricture to the inner and anterior aspect of the neck of the sac, the bowel being protected by the fore and middle fingers, while the nail of the forefinger formed the director of the bistoury beneath the constricting ring. The slightest lever movement of the knife-handle made space so that the bowel became flaccid. On drawing gently upon the knuckle of intestine, it seemed adherent to the ring; but yielding to the gentle continued traction, an adhesion seemed to give way, and the knuckle of bowel came down. At the same moment, with a crack like a bubble of air bursting, a puff of foetid gas and a gush of fluid *feculence* escaped from the intestine on the level of the mouth of the sac. On washing the parts, the aperture of escape was found on the side of the bowel corresponding to the external aspect of the femoral ring, and close to the mesentery. It seemed like a transverse linear cut, a little more than a quarter of an inch in length, such as a thread might have made in the serous membrane, through which the ulcerated mucous and muscular coats along the whole line of constriction were obviously exposed. Puckering together the peritoneal coat with a pair of dissecting forceps from around the small aperture, I secured it with a ligature tied with a double knot, which, while applied with sufficient firmness to prevent it slipping, was gently tightened so as to avoid further cutting by the ligature of the tender serous membrane.

After again carefully cleansing the bowel, I returned it within the abdominal cavity; the ligature, however, was left hanging out through the wound. Further, the patency of the sac was secured by stitching its divided margins to the edges of the cutaneous incision. The dressing consisted of a pad of tow supported externally by a folded towel, and retained by a spica bandage. The patient was now laid in bed, with the limb on the affected side raised in the flexed position on pillows.

A draught of 50 drops of laudanum was administered as soon as the effects of the chloroform had sufficiently passed off to admit of her swallowing; and a quarter of a grain of muriate of morphia in pill was ordered to be given repeatedly.

Within four hours all painful symptoms had subsided; the patient had also enjoyed several quiet sleeps, and taken from time to time a single spoonful of water or of milk. We desired that her food should consist of milk and beef-tea, with ice, but no solids; and even of those fluid articles of nutriment, she should have no more than a mouthful at a time.

28th February (five days after the operation).—The wound has only once been dressed since the operation. To-day Dr Littlejohn again visited Miss W. with me, and we found all the symptoms of abdominal tenderness quite subdued; the pulse quiet, the tongue moist and otherwise good, and the thirst moderated. On dressing the wound, I found the sac sloughing, and accordingly cut out the

sutures. The ligature still hung out of the wound. There was no fæculent smell, and no purulent discharge; the fluid exuding from the surface consisting simply of fœtid serosity.

4th March (ten days after the operation).—Dr Bell remarked that some fluid fæculence had escaped upon the dressing. The ligature still, however, remained in the wound, which, in the report with which he favoured me, he says, is beginning to granulate, the sloughing sac having separated.

9th March (fifteenth day after operation).—No fæculent discharge to-day.

14th March (twentieth day after operation).—To-day the ligature came away on the dressing. There has been no fæcal flow since last report. To have oatmeal-gruel three times a day.

21st March (twenty-seventh day since operation).—To-day the bowels acted spontaneously, for the first time since the operation.

1st April.—To-day the wound has soundly closed, no discharge of any kind showing upon the dressings.

Since last report the patient has not only been out of bed, but has been able to venture out of doors, and is now (21st April) perfectly restored to her usual health.

In this case, a period of more than seventy-two hours had elapsed from the time when the rupture descended till the operation was performed, and during at least sixty-three hours of that period symptoms of strangulation had existed. The prognosis of an operation undertaken under such untoward circumstances was necessarily bad. It is a recognised fact in the treatment of hernia, and one which should be sedulously impressed upon pupils as illustrating the necessity of avoiding all unnecessary delay in resorting to operation, that death of the patient has occurred within eight hours after the descent of a hernial protrusion.¹ In such cases, where sphacelation has ensued, the constriction has usually been excessively tight, and the bowel unprotected by any omental wrapping. In any instance where twenty-four hours have elapsed during which urgent symptoms of strangulation have been persistent, there is little likelihood of finding the intestinal contents of the sac in such a condition as to admit of their being returned to the cavity of the abdomen. Those examples where a much longer period has intervened from the recognised descent of the hernia till it has been successfully relieved by operation, such as a week or ten days, have undoubtedly partaken rather of the characters of the incarcerated than the strangulated hernia; and as the condition of incarceration may either insensibly pass into that of reducibility or of strangulation, it certainly becomes a difficult matter to decide when the symptoms of strangulation—*i.e.*, in-

¹ Sir A. Cooper on Hernia, 2d edition, p. 36.—"There is a drawing of a large intestinal and omental hernia in the museum of St Thomas's Hospital, which Mr Else used to state in his lectures proved fatal in eight hours from the first appearance of strangulation. Under these circumstances, death is not occasioned by mortification, but by the constitutional irritation."

interference with both faecal flow and vascular circulation in the part retained—became established. For convenience' sake, the occurrence of abdominal inflammatory symptoms and persistent vomiting may be accepted as indicating the period when strangulation is established, and after which all delay is dangerous. Accepting this criterion, we have in this case a history of sixty-three hours of strangulation.

The strangulation had fortunately not been aggravated by any violent remedial efforts. She had taken a dose of aperient medicine, certainly, for she regarded the attack as a bilious one; but this purgative had been ejected by vomiting, and it may be eliminated from the history of the case as in any respect complicating its progress. There had, furthermore, been no repeated efforts at the taxis.

Dr Bell, when he saw the case for the first time, at 6 A.M. of the 22d, taking into account the long period the hernia had been down, very wisely abstained from making any violent or long-continued effort to reduce the rupture, regarding the condition of the bowel as very questionable, and doubting whether, if he could reduce it, the result might not be for the worse rather than the better. It would be well if a like prudent consideration guided the conduct of all surgeons. I have more than once been called in to see a patient in a state of collapse and unconsciousness induced by the forcible reduction of a strangulated hernia, and where a soft tympanitic sac indicated that an effusion of the intestinal contents had occurred, and that a gangrenous portion of torn bowel had been returned to the cavity of the peritoneum.

Considering the other symptoms present in this case, there were indications good and bad. The pulse had a steady, sharp, jarring character. The face was flushed; the surface was covered with a warm and copious perspiration. So much was favourable. But, on the other side, hiccough had set in; there was well-marked abdominal tenderness, and the skin was brawny over the sac, while the voice was like that of a cholera patient in the stage of collapse.

By some hiccough is thought to be pathognomonic of sphacelation having occurred.¹ This view I cannot accept, as, not only in the present case, but in several others in which I have operated with success, the hiccough had for hours been a source of great uneasiness and exhaustion.

I regarded the hiccough in this case, especially in combination with the febrile disturbance, well-marked abdominal pain, and brawny thickening of the soft parts overlying the sac, as symptomatic of peritonitis affecting the sac, its contents, and the abdominal cavity. The symptoms, therefore, on the whole, urgently called for operation; but the long continuance of these symptoms and their well-marked inflammatory characters, gave a somewhat doubtful prognosis as regarded the vital condition of the contents of the sac, and therefore of the prospects of the patient.

¹ Sir A. Cooper on Hernia, 2d edition, p. 35.

The operation needs no comment; it was executed in the usual way. So far as opening the sac was concerned, I will only here remark in passing, that this case was one of those in which not even the most strenuous advocate for the extraperitoneal procedure would have deemed it expedient to have attempted to afford relief without opening the sac. There were two grounds for such a view being taken of the line of operation even before commencing: *first*, that the symptoms of strangulation had lasted almost beyond the period when any hope of finding the bowel in a returnable condition could be entertained; *second*, that the inflammatory symptoms were so well marked, that to open the sac would be desirable, as a means of affording an escape for the fluid inflammatory products. On opening the sac, the fluid which escaped was both good and bad: good in so far as it was not putrid, bad in so far as it contained lymphic flocculi. I have on several occasions observed, when the fluid in the hernial sac is flocculent, and a nebulous haze obscures the natural peritoneal lustre, even where there is no sphacelation of the intestine, that the patient either sinks from sphacelation of the bowel after its return, or that a faecal fistula becomes established from the giving way of the softened intestinal structures. And in the latter class of cases, when the patient has sunk, and an opportunity for dissection been afforded, I have observed well-marked ulceration of the mucous and muscular coats of the bowel at the point of constriction.

The division of the constriction was effected in the usual way with a curved blunt-pointed bistoury. I have never employed a director in operating for hernia, either for the preliminary division of the soft parts, or for guiding the bistoury beneath the constricting margin. When the opening is moderately large, the tip of the forefinger can much more accurately form a guide; when the opening is very small, there is really no room for most of the implements of this kind to be introduced without the risk of bruising the constricted parts. I never experienced the slightest difficulty in insinuating the mere cutting extremity of the edge of the blunt-pointed bistoury guided by the finger under the constricting fibres, so as to notch them effectually; and I have always looked with dismay at operators who seem not to be content unless they have at least half an inch of the knife in the cavity of the belly, and cut as though it required a large incision to give the necessary relief. A very limited division of the stricture is all that is necessary. Such a careful application of the cutting edge of the bistoury, in one instance in my practice, most certainly avoided the division of the obdured artery, where, after the bowel had been returned, on inserting the finger within the ring, the course of the vessel arising abnormally from the epigastric could be distinctly perceived surrounding the neck of the sac.

After relieving the constriction, on gently drawing upon the bowel, which had become flaccid, there was a slight resistance, and

then the escape of the flatus and fæculence from the point of constriction as the site of nipping was exposed. Adhesions at the site of stricture had taken place, agglutinating the intestine to the parietal peritoneum within the abdomen, and at the site of stricture. The yielding of these lymph patches exposed the slit-like opening in the peritoneal coat, and thus established a communication with the cavity of the intestine where the mucous and muscular coats had already been penetrated by ulceration. How, it may be asked, was this slit-like aperture produced in the intestine? I believe, by the tight and thread-like margin of the stricture, against which the taxis forced the thinned and softened texture of the bowel with such effect as to cut it through. The absence of any omental wrapping would necessarily favour this effect. But if the solution of continuity took place when the taxis was employed, how came it that the intestinal contents did not escape into the sac, and the collapsed bowel recede within the abdominal cavity? For this is the result in most cases when either the softened contents of the hernia or the inordinate efforts at taxis are attended with perforation of the intestine. The adhesions between the bowel and the parietal peritoneum at the seat of stricture, and on its inner or abdominal aspect, together with the integrity of the mucous and muscular coats at the time the taxis was employed, may suffice satisfactorily to explain this result.

Such slit-like apertures have undoubtedly been sometimes produced by other causes, such for example as a careless application of the bistoury in relieving the stricture. In narrated examples of this accident, the escape of fæculence and flatus is described as occurring when the knife is either introduced or withdrawn in dividing the constriction; the aperture is situated on the aspect of the bowel corresponding to that upon which the knife is inserted within the femoral ring, and the slit in the gut is at right angles in its direction to the axis of constriction. In the present case, the aperture in the serous coat of the intestine was linear, but transversely so, or, in other words, in the axis of constriction, there was no flatal or fæculent escape on employing the knife, and the opening was upon the aspect of the knuckle of bowel away from that on which the knife was applied. Fortunately, it corresponded to the mesenteric attachment of the intestine, and was not upon its free marginal surface. It was, in other words, situated where the likelihood of plastic results was greatest, and where the puckering together of the peritoneum was least calculated to diminish the calibre of the intestine.

The degree of nipping of the bowel at the site of constriction was sufficient of itself to mark that ulceration of the mucous and muscular coats of the intestine must have advanced to the complete division of these textures at the point where the stricture had most essentially interfered with the vitality of the tissues. It is this ulcerative change in the mucous and muscular structures of the intestine which so often gives rise to after sphacelation of the loop

of bowel when neither the appearance of the intestine nor a gangrenous foetor indicate at the time of operation that its vitality has been destroyed. When this ulceration of the inner coats has become complete, the serous coat alone remaining entire, the vascular supply must come through the vessels of the serous coat alone, and therefore the vitality of the parts forming the mass of the protrusion must be most seriously imperilled. I am surprised, in looking into the systematic works on surgery, how little is said on this subject. No mention of the early destruction of the mucous and muscular coats at the site of constriction due to ulceration, is to be found in the works of Syme, Erichsen, or in the *System of Surgery* by various authors which is regarded as the great exposition of the British surgery of the hour. In the "*System of Surgery*" by the late Professor Miller, I alone find the fact adverted to. There it is said, that where "the ulceration proceeding from within has nearly divided the intestinal coats," indicated by the existence of persistent "nipping," the condition of the bowel is "fast passing into gangrene," which may occur wholly or partially with fatal fæculent extravasation after the intestine has been returned to the cavity of the abdomen. If the completeness of the nipping in this case were not sufficient to prove the degree of the destructive change going on within, it was demonstrated by the ulcerated condition of the mucous and muscular coats as seen through the small slit-like aperture. It also proved that the ulcerative change is one which really occurs during the presence of the constriction, and is not merely a pathological result effected and completed during the period which intervenes between the relief of the stricture and the death of the patient. Certainly, the thin membranous film of the serous coat, denuded of all internal support from mucous or muscular structure, when looked at through the opening did not present an appearance calculated to inspire much confidence in its power of either bearing a ligature, or of materially assisting in the process of repair.

The treatment of the aperture in the intestine, together with the successful result, appear to me the most interesting feature in the whole facts of the case.

Careful examination of the implicated portion of intestine led me to hope that its vitality was not wholly extinguished, but that, after the degree of long-continued constriction to which it had been subjected, its recovery was more likely to take place when lying within the cavity of the belly than if left exposed in the hernial sac. To return it into the aperture unclosed, admitting a free fæculent escape, was of course out of the question; but to close the opening as if it were a case of simply wounded intestine, was to run a risk of after-fæcal escape. Against a successful result there were, (1) the weakened vitality of the textures implicated, owing to the long period of strangulation, and the consequent ulceration of the mucous and muscular tissues of the bowel at the part requiring ligature of the serous coat; (2) the risk of fæcal extravasation, in consequence

of early separation of the ligature before any satisfactory agglutination of the parts implicated could take place; (3) the increased risk of a septic purulent peritonitis from the presence of a ligature, and, possibly, sphacelating bowel within the cavity of the abdomen. In favour of a satisfactory result there were, (1) the position of the aperture in the constricted parts being, as we have seen, close to the mesenteric attachment; (2) the likelihood of an agglutinative peritonitis fixing the affected portion of bowel close to the mouth of the sac; thus affording it efficient support, and a free external escape for pus or intestinal contents. The procedure by puckering up the serous coat from around the small opening is precisely what should be practised in cases of penetrating wounds of the abdomen, with punctured wound of the bowel, where the application of the ligature can be effected without diminishing the calibre of the intestine. The healthy condition of the viscus wounded in such circumstances makes the probabilities of success much greater than when the textures, long strangulated in a hernia, are subjected to ligature. This plan of treatment, as adapted to the circumstances of wound in the intestine contained in a hernia, was apparently first suggested by Sir A. Cooper, in the second edition of his work upon *Hernia*,¹ where he says, "A small wound may be inflicted upon the gut by the knife of the operator. When this accident occurs, and the aperture in the gut is very small, the surgeon is to employ a different mode of treatment from that required for gangrened intestine. The aperture, with a small portion of the surrounding gut, should be pinched up with a pair of forceps, and a fine silk ligature, being passed round it, should be secured so as to include the ruptured spot; the intestine should then be returned to the mouth of the sac." In the case given by Sir Astley in illustration of this practice, and upon which he seems to have operated himself, he states that, after tying the aperture with a ligature, he reduced the intestine, and closed the wound with five stitches and strapping. He says nothing, however, about cutting off both ends of the ligature close to the knot,—an addition to his plan of procedure which finds its way into the works of both Mr Teale² and Mr Erichsen,³ as if it were part of the original proposal.

In the case I have narrated, I did not cut off the ligature close to the knot. Neither did I close the wound. In fact, I attached the divided margins of the sac to the edges of the cutaneous wound, so as to maintain a patent communication with the cavity of the abdomen, and a free channel of escape for purulent or intestinal matters. The ligature I purposely left hanging out of the wound, that it might afford a guide for the fæculence, should it escape. The wound itself was dressed simply with a pad of tow, retained by a spica bandage, so that no impediment might exist to a free fæcal escape, should it come in quantity and with force, as is sometimes the case. No better commentary could be made upon the good

¹ 1st part, 2d ed., p. 45.

² Teale on *Hernia*, p. 134.

³ Erichsen's *Science and Art of Surgery*, vol. ii. p. 460.

effects of this mode of procedure, together with the careful restriction of diet to the smallest quantities of fluid nourishment, and the free administration of opiates, than to read by contrast Sir Astley's case, where the closure of the wound, the repeated administration of violent mercurial purgatives, and free bloodletting, was attended with violent fever, retention of urine, a tense and tender belly, great flatulent distention and delirium, relieved at once, when the stitches were cut out, by a copious discharge of pus from the wound.

If there be one thing more than another in the treatment of a strangulated hernia after operation, which, next to early interference, conduces to the success of the result, it is the abstinence from the employment of purgatives, and the somewhat free administration of opiates. Here the patient's bowels were not opened for nearly four weeks after the operation, and then this result was spontaneous, unless the oatmeal food can be supposed to have conduced to have procured their evacuation. Till this evacuation she had no solid food of any kind. The patient was very hungry during a considerable period of her convalescence, and grumbled somewhat at the strictly-limited dietary. By diminishing the quantity of *feculent* material passing through the intestine, this meagre diet undoubtedly shortened the period during which the *fecal* fistula existed, while the progress of the reparative changes were at the same time not delayed.

For the first week, Miss W. took a quarter of a grain of morphia every two or three hours; during the second week she had the same quantity thrice a day; during the third week she had a pill only at bedtime; and after that period it was discontinued. To the heroic practitioner of former times, to whom the early evacuation of the bowels after the operation seemed the great object to be sought after, such non-interference may seem foolishness, and, possibly, the idea may even suggest itself that the obstructed condition of the intestines may have favoured the establishment of the *fecal* fistula. Were it so, the *fecal* discharge would not have ceased spontaneously before the bowels were moved, nor would it have lasted for only five days,—a duration of flow which, with its very limited amount, points to the separation of the ligature as the source of the escape.

Would it have been a wiser method to have adopted that mentioned as Sir A. Cooper's, by Mr Teale and Mr Erichsen, viz., cutting off the ends of the ligature close to the knot, by which, as in the case of wound, the detached ligature effects its escape by ulceration into the bowel? I think not; for if adhesion be imperfect, and *feculent* or *flatal* escape be established, it is surely as well that a free channel of escape be provided than risk the fatal extravasation, which a complete or even partial occlusion of the neck of the sac from any cause might entail. A painful result, after an illusory period of convalescence.

No doubt, cases have been narrated where a portion of bowel

with a small ruptured or ulcerated aperture in its parietes has been returned to the abdominal cavity without employing any measures for securing even a temporary closure of the opening. Such successes are, however, no more worthy argument for the imitation of such practice than the few scattered cases where recovery in cases of unrelieved hernia has followed sphacelation of the bowel, sac, and integumentary tissues, should encourage us to neglect the ordinary operation for relief.

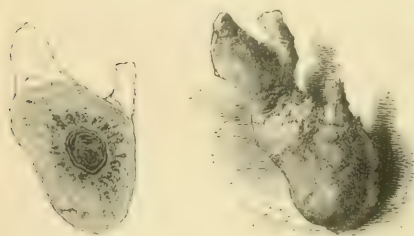
Practically, the adoption of this practice of applying a ligature around any small aperture in the intestinal contents of a hernial sac is not likely to be frequently repeated with success, especially in instances where the strangulation has existed for so long a period as sixty-three hours. But if Mr Erichsen's statement is taken into account, viz., that accidental wounds of the intestinal contents of a hernia have occurred in the "practice of the best and most careful surgeons," that Lawrence, Sir A. Cooper, Jobert, and Liston, have all met with it in their practice,—then we may believe that this class of intestinal wounds may occur again, and the successful issue in this much more unfavourable condition may encourage less distinguished men, should they meet with such an untoward accident, to resort to this method of treatment, and to have a better prognosis than I should imagine their personal feelings, in the circumstances, would be likely to originate.

ARTICLE IV.—*Calculus successfully removed from a Cavity in the Kidney, with Observations on the Operation of Nephrotomy.* By THOMAS ANNANDALE, F.R.S.E.; Assistant-Surgeon, Royal Infirmary; Lecturer on Surgery, etc.

MR G. S—, æt. 42, recommended by Dr James Forrest of Stirling, came to my house on the 9th of April 1869, on account of a small fistula in his left loin. The patient gave me the following history of his case:—One year ago he felt, for the first time, a slight pain in his left loin, which occasionally passed down into his abdomen, was never severe, and was usually relieved by rubbing the part with a little laudanum. A few months after the first pain a swelling formed in his left loin, and was opened by Dr Forrest, with the result of giving exit to several ounces of healthy-looking pus. The wound remained open, and continued to discharge pus, but he suffered no inconvenience, and only had an occasional slight pain in the loin. There never were any urinary symptoms, nor was there, at any time, any blood, mucus, or pus in his urine. No urine ever passed through the fistula. Three months after the abscess was opened, a small calculus of a triangular shape passed through the wound, and a few days after Dr Forrest removed some small gritty particles from the margins of the sinus. One month after this the wound had healed, but required again to

be opened, and some more portions of soft calculous matter were extracted. After this the wound contracted very much, and no more calculi passed; but as the sinus still remained open at the end of several months, my advice was asked on the case. An examination of the patient showed a small sinus with a depressed orifice situated in the left loin, about three inches from the spines of the vertebrae, and immediately below the last rib. There was no swelling or enlargement of the surrounding parts, and no tenderness on pressure. A fine probe introduced into the sinus passed down for a depth of three inches, and, after a little search, its point struck a hard body, which was, without doubt, a stone. Being anxious to ascertain more surely the size and position of the calculus, I proposed to the patient to enlarge the sinus in order to get my finger introduced. He at once consented; so having freely incised its superficial margins, I was enabled to get the point of my finger into the sinus, and then, partly by dilatation and partly by cutting, I succeeded in touching the stone, but not until the entire length of my finger had been passed into the wound. The stone lay in a cavity which appeared to communicate with the sinus by a limited opening, as a considerable portion of the stone was felt to be covered by a soft membranous substance. From the depth of its situation, and from the feel of the surrounding parts, I felt very certain that the stone was lying in a cyst or cavity of the kidney itself. Having proceeded so far, I determined to extract the stone, and, accordingly, enlarged the wound freely, carefully cutting the deeper portions with a probe-pointed bistoury. A pair of dressing forceps was then introduced, and the stone readily seized, but it seemed to be caught at one or two points, and would not leave its cavity. After one or two attempts, however, I managed to lay hold of the stone obliquely, and to draw it out. The patient, who had complained of great pain in the abdomen while I was touching the deeper part of the wound, bore the operation with great fortitude, and after a few minutes' rest went to a friend's house in a cab. Next day he returned home to Stirling, and although he was feverish and suffered from pain in the abdomen for a few days, he made a good recovery, and was soon back again to his employment. Two days ago (1st June) I received a letter from my patient, to tell me that he had been at his work regularly for the last three weeks, and that the wound was rapidly closing. He has

Fig. 1.



no pain or uneasiness of any kind now. The stone removed is represented of natural size in Fig. 1; it weighed seventy-two grains, was of an elongated shape, and had two branches or processes

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at one end, and a third process springing from its body. Its length was one and a half inches, and its diameter, at the thickest portion, was a little more than half an inch. Externally the stone was white in colour, but here and there a brown hue showed itself through the external layer of phosphates. A section, also illustrated in Fig. 1, showed a nucleus the size of a small pea, of a dark brown, almost black colour. Outside this the colour was a lighter brown, and the structure was arranged irregularly and in wavy lines. Here and there the section showed distinctly an outer thin layer of phosphates. Dr Arthur Gamgee was good enough to analyze the stone for me, and the following is his report:—

Constituents in 100 parts.

Phosphates of calcium, magnesia, and ammonium,	14.20
Oxalate of calcium,	73.35
Organic matter and moisture,	12.45
	<hr/>
	100.00

Remarks.—This case is an interesting example of one of the results which occasionally follows the formation and lodgment of a calculus in the kidney. From the composition, shape, and situation of the stone, there is little doubt that it had formed in the kidney, and had given rise to changes in the structure of that organ, such as have been described by Sir B. Brodie,¹ Prout,² Rayer,³ Johnson,⁴ and other authors, and to the abscess and consequent fistula.

The concretions which passed before my operation were composed almost entirely of phosphate of lime, and were most probably of secondary formation, and caused by the presence of the oxalate of lime calculus; for Dr Prout has shown that phosphate of lime may be deposited by the lining membrane of the bladder and cavities of the kidney, as a result of irritation or alteration of structure without any actual connexion with the urinary secretion. The calculus removed was also entire, so that these first stones could not have been portions of it.

According to Prout and other authors, the lithic acid calculus is the one most frequently met with in the kidneys, the oxalate of lime one being the next most common. The latter is usually single, although Sir B. Brodie describes a case in which he found five or six oxalate of lime calculi in one kidney, and would appear in most cases to give rise to more severe symptoms than the former.

Abscesses forming in connexion with renal calculi have given rise to fistulous openings in other situations than the loins. Rayer,⁵ referring to renal fistulæ, says:—"These fistulæ, caused in most

¹ Lectures on Diseases of the Urinary Organs.

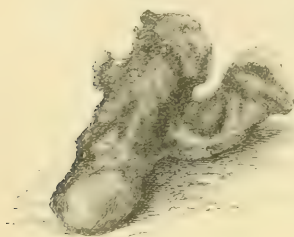
² On the Nature and Treatment of Stomach and Urinary Diseases.

³ *Maladies des Reins.* ⁴ Johnson on the Kidneys. ⁵ *Loc. cit.*, p. 275.

cases by the presence of one or more stones in the pelvis or ureter, may open into the cellular tissue external to the peritoneum, into the external lumbar region, or near the crural arch, into the colon or duodenum, into the cavity of the peritoneum, or, lastly, into the pleura or lung corresponding to the affected kidney."

When Demonstrator of Anatomy in the University in the year 1864, my attention was directed to a male subject about fifty years of age, which had several small fistulous openings in the right loin. These fistulæ passed down in the direction of the right kidney, and small portions of the last two ribs had been absorbed. The right kidney was found to be hollowed out into a cyst, and in it lay the calculus figured in illustration (Fig. 2). I could obtain no history of this case, but feel sure that the stone could have been removed with safety during life.

Fig. 2.



Points worthy of notice in the case reported, are the absence of urinary or other symptoms, and the non-escape of urine through the fistula; the former will be more particularly referred to immediately; the latter is explained by the absorption or destruction of the glandular structure of the kidney in the progress of the case.

Hippocrates and other ancient authors refer to the removal of renal calculi in cases such as the one here under consideration, and there are a few cases on record in which renal calculi have passed out through fistulous openings in the loins or other situations, or have been removed from the cavity of an abscess or sinus. M. Lafitte,¹ in a paper entitled "*Sur les Cas où la Néphrotomie se fait avec succès,*" relates four cases treated by himself and others. In one of these, a renal calculus passed out through a sinus in the loins which had been dilated with bougies; and in the other three, calculi were removed from abscesses and sinuses in the same region. In only one of these cases—a case operated upon by M. Lafitte himself—was the stone situated at such a depth as to require a deep incision for its removal, as in my own case.

At a meeting of the Medico-Chirurgical Society of London, held on the 27th of April 1869, Mr Spencer Wells referred to three cases of the kind which had come under his own observation. In one, a calculus escaped from the cavity of an abscess in the loin; and in another, a calculus was removed from an abscess near the rectum.

I propose now to make a few remarks,

1st, On the diagnosis of renal calculi, more especially in connexion with the operation of nephrotomy;

2d, On the operation of nephrotomy.

First.—The diagnosis of renal calculi will be best considered by a brief inquiry into the pathology and symptoms of the disease.

¹ Mémoires de l'Académie Royale de Chirurgie, vol. ii. p. 233.

When a renal calculus has formed in the kidney, it, like calculi in other situations, continues to increase in size, so that, if it does not pass down the ureter into the bladder before it has become too large to enter that canal, it remains permanently lodged in the renal orifice of the ureter, in the pelvis, or in one of the infundibula of the kidney; sometimes it occupies more than one of these situations. Sooner or later, such a renal calculus leads to more or less interference with the urinary secretion of the affected kidney, either by mechanical obstruction to the passage of urine down the ureter, or by acting as a foreign body and source of irritation. In the former case, the whole cavity of the kidney becomes dilated, so that numerous cavities or cysts are formed, which usually contain urine, sometimes pus, and may also contain one or more calculi. At the same time, the glandular structure of the kidney gradually undergoes absorption or destruction, and then in some instances, as has been described by Sir B. Brodie, the secreting portion of the organ having been destroyed, the fluid contents (urine) of the cysts become absorbed, and there only remains a contracted cyst or capsule, in which lies the calculus or calculi. In the latter case, the changes are of much the same nature, although they may not at first involve the whole organ, but be limited to that portion or portions occupied by the stone or stones.

Suppuration of the kidney may apparently occur at any stage of these changes, and the result may be diffuse suppuration, with more or less destruction of its substance, and discharge of pus through the ureter, or the formation of one or more abscesses, which may point and burst in the loins or other situations.

The lodgement of a calculus in the kidney, even when the structure of the organ has undergone considerable changes, does not always give rise to symptoms. Most writers on the subject have mentioned the fact, and have observed that the signs of such a disease may be slight (as in my case), obscure, or altogether absent. For the sake of illustration, I may refer to two cases, figured in "The Fifth Fasciculus of Anatomical Drawings," from specimens in the Army Medical Museum at Chatham. In both of these cases calculi, which had given rise to serious changes in the kidney structure, were removed after death from patients who had never during life had any urinary symptoms, or complained of renal affection. Both patients died of phthisis. Mr Holmes¹ showed, at a meeting of the Pathological Society of London, a kidney, the whole cavity of which was found filled with calculi. The patient from whom the specimen was taken died of another disease, and never had renal symptoms during life. His urine had been tested during life, and found to contain no albumen.

When symptoms are present in cases of renal calculi, they consist of pain or uneasiness in the loins and region of the affected kidney, pain shooting down in the direction of the ureter to the groin

¹ Trans. Path. Society, vol. x.

and testicles, or down the thighs, painful retraction of the testicles, pain referred to the neck of the bladder and urethra, blood, pus, and mucus in the urine, and, lastly, symptoms of gastric disorder. In some cases there may be swelling and tenderness over the affected kidney. These symptoms vary much in degree and number in different cases.

The *symptoms*, therefore, which would guide the surgeon to diagnose the presence of a stone in the kidney are,—

(1.) Pain in the loins and region of the kidney, pain shooting in the direction of the ureter, and to the testicles, with painful retraction of the latter organs, or pain referred to the urethra or neck of the bladder. Before, however, any of these symptoms can be diagnostic, it must be determined that the urethra, prostate, and bladder are in a healthy condition, for any affection of these parts may give rise to similar pains.

(2.) An abnormal condition of the urine, with the presence in it of blood, mucus, pus, or gravel, provided it be carefully ascertained that the source of such abnormal products is the kidney itself.

(3.) Vomiting and other signs of gastric irritation. Suppression of urine may come on during the progress of the case, and give rise to fatal coma. If there is extensive suppuration of the kidney, the patient may become exhausted and hectic.

(4.) Swelling and tenderness over the region of the affected kidney. These symptoms, when present, may be caused by an abscess, or they may depend on the enlargement or expansion of the kidney itself.

It cannot, however, be said that any one of these series of symptoms taken alone is diagnostic of renal calculus. If the first three exist (the enlargement of the kidney, mentioned under the fourth set of symptoms, may not be detectable except in thin patients), the presence of a stone in the kidney must be considered as very probable. In cases where an abscess points externally, the nature of the case will at once be discovered by laying it open, and searching its cavity or track with the finger or probe.

Should the surgeon expose a kidney affected with renal calculus, he would find one or other of the following conditions :—

(1.) The kidney showing an enlargement or dilatation in the region of its pelvis or one or more of its infundibula, or in both, according to the situation and number of the calculi.

(2.) The whole kidney enlarged, and its cavities dilated, so as to form cysts, which may be full of fluid (urine), and contain one or more calculi.

(3.) The kidney contracted, and consisting merely of one or more cysts in which the calculus or calculi are lodged.

(4.) The pelvis of the kidney, or some portion of its substance, destroyed or expanded into an abscess, which may communicate by a fistula with internal or external parts, and in which, or in some part of the fistulous canal, the calculus or calculi will be lodged.

The calculus or calculi may thus be lodged in the orifice of the ureter, in the pelvis, infundibula, or in cysts or abscesses connected with these parts.

Second.—I have not called my case one of successful nephrotomy, although similar cases have been so named, for I think this term ought to be confined to those cases in which the surgeon makes a special incision down through the loins, and lays open the ureter or kidney. There can be no doubt as to the propriety of operating in cases such as the one reported by myself. Hippocrates, quoted by Heister,¹ says—"Where there is a suppuration of the kidney, and it forms a tumour near the spine, in that case a deep incision is to be made upon the tumour near the kidney, or into the kidney itself." Lavaterus, quoted by the same author, says—"I perform the operation of nephrotomy on either of the kidneys when nature directs to that practice by forming an abscess."

Sir B. Brodie² says—"But nephrotomy (as it has been termed) may be practicable where nature, by the formation of an abscess, has pointed out the exact situation of the calculi, so that they may be felt with a probe;" and I think most surgeons of the present date will agree with the opinions of these authors.

Is, however, the operation of nephrotomy (using the term as I have suggested) justifiable where there is no abscess to "direct the practice?" Tulpus³ ridicules the idea of cutting into the kidney in such cases in the following words:—"Viderint igitur illi qui satis speciose docent ex incisis renibus calculos eximere, quam turpi ignominia prostituerent et se et artem suam si quidem aliquando inciderent in calculum tam firmiter renibus innatum." Charles Bernard,⁴ in a paper in the "London Philosophical Transactions," entitled "An Account of a Gentleman being cut for the Stone in the Kidney, with a brief Inquiry into the Antiquity and Practice of Nephrotomy," criticises the writings of various authors who have endeavoured to show that Hippocrates and others advised the operation of nephrotomy in cases where there was no abscess to guide them, and maintains that the operation was not recommended by Hippocrates in such cases; and, further, that it had never been performed previously to the one he relates. B. Bell,⁵ in his chapter on Nephrotomy, remarks—"Upon the whole, we may conclude that when we are not directed by the appearance of a tumour to the part which ought to be opened, the uncertainty of the ground upon which we proceed when we undertake this operation, the difficulty of performing it, and the very imminent danger which attends it, will more than counterbalance any advantage

¹ General System of Surgery, 4th edition, English translation, part ii., p. 109.

² *Loc. cit.*

³ *Observationes Medicæ*, p. 166.

⁴ *Philosophical Transactions*, vol. xviii. p. 333.

⁵ *System of Surgery*, vol. ii., 3d edition.

which can ever be expected to be derived from it." Sir B. Brodie says—"The proposal is absurd and dangerous if made with a reference to ordinary cases of renal calculi where no abscess exists." Gross¹ says—"When the stone is large and productive of incessant and severe suffering, nephrotomy has been recommended; but such a procedure could only be thought of when the concretion is of immense bulk, or when it has worked its way partially through the loin by ulceration. In such a case it might easily be cut down upon, and removed with a fair prospect of a tolerably good recovery." On the other hand, Heister² advocates the operation, and, in support of his view, quotes the opinions of Wedelius, Rossetus, and the anatomist Riolan, and also refers to the fact observed by himself, that wounds of the kidney are not always fatal. The case related by Mr Bernard was one in which Marchetti cut down upon the kidney of a Mr Hobson, and next day cut into the kidney itself, and extracted two or three calculi, with the effect of relieving the great pain from which the patient had long suffered. A urinary fistula resulted, but the patient was alive ten years after.

While thinking over the subject of nephrotomy in connexion with my case, I was much interested to read in the *Lancet* a report of a paper (read before the Medico-Chirurgical Society of London on the 27th of April 1869) on this question by Mr T. Smith, who thinks that the operation is one well worthy of the consideration of the profession. I entirely agree with the proposal of Mr Smith, and as the kidney can be readily and safely reached behind the peritoneum, I should have no hesitation in cutting down through the loin and exposing the kidney, provided the symptoms of the presence of a calculus were well marked, of some standing, and had resisted other treatment. As Mr Smith suggests, such an operation would permit the kidney and renal end of the ureter to be examined, and then it could be decided whether or not the case was suitable for cutting into the ureter or kidney itself. Having entire confidence in the good and safe results to be obtained in the treatment of wounds by the proper application of Mr Lister's antiseptic principles, I feel the more encouraged to advocate such an exploratory incision. The conditions of the kidney most likely to be favourable for the extraction of calculi are those in which the stone is encysted and superficial, or in which the glandular structure of the kidney has become destroyed or absorbed; but even in the other conditions, the removal of a stone may, I think, be perfectly justifiable, especially if the patient's symptoms are severe or urgent. If the ureter or pelvis of the kidney requires to be cut into, I should be inclined to recommend that the wound in these structures be carefully stitched with silk or gut, prepared "antiseptically," so as to prevent, if possible, urinary extravasation or the formation of a urinary fistula. In conclusion, a word as to the best method of exposing the kidney. Through the

¹ System of Surgery, vol. ii., 4th edition.

² *Loc. cit.*

kindness of Dr Chiene, Demonstrator of Anatomy in the University, I had lately an opportunity of testing this point on the dead subject, and it appears to me that the renal end of the ureter and the kidney can be easily and safely exposed behind the peritonæum by means of an incision in the lumbar region. This incision should be made from the last rib to the crest of the ilium over and parallel to the outer border of the erector spinæ muscle. The skin, cellular tissue, and aponeurosis investing the posterior aspect of the erector spinæ being cut through, the outer border of this muscle will be reached, and then by drawing the muscle inwards the fascia investing its anterior aspect will appear. This layer of fascia having been divided, the outer border of the quadratus lumborum muscle will be apparent, and then, in order to bring the kidney and the renal end of the ureter into view, it is only necessary to cut through the thin layer of fascia which passes over the anterior aspect of this muscle, and to separate the fatty tissue surrounding the kidney. In this incision no structure of importance need be interfered with. Sometimes a lumbar artery will cross the wound, and require to be secured, and the last dorsal, ilio-hypogastric, or ilio-inguinal nerves may show themselves at the deep part of the wound, but they can be readily turned aside and left uninjured. It must be remembered, too, that the right kidney lies a little nearer the crest of the ilium than the left. As the important bloodvessels enter the hilus of the kidney in front of the ureter, this canal, or the pelvis, will be most conveniently opened on its posterior aspect.

ARTICLE V.—*Case of Tumour of the Bones of the Skull.* By LAWRENCE RAMSAY THOMSON, M.D., Dalkeith. With Post-mortem Examination and Remarks, by A. G. MILLER, M.D., F.R.C.S.E.

(Read before the Medico-Chirurgical Society of Edinburgh, 3d March 1869.)

JOSEPH GRIEVE, aged 21, gardener, unmarried, of fair complexion, ruddy countenance, and healthy appearance, had always enjoyed good health up till this illness. He came under my notice in May 1868, and had then the appearance just described. I learned that the first symptoms he had were in September 1867, when, while raking the gravel-walks at Dalkeith Gardens, he suddenly felt a disagreeable sensation in his left ear, as if a wasp had got into it, and given rise to a buzzing sound. About a month after this he felt pain in the same ear, especially at the back of the auricle. In the end of December he was somewhat deaf in the same side, and, in consequence, visited the Ear Dispensary in Cockburn Street. At that time, also, he complained of the back of the nostrils being stopped up, and of the ordinary symptoms of coryza. At the Dispensary he was told to *snuff*, and was ordered a fly-blister behind the ear, a zinc lotion, gargle, and some pills.

A fortnight after (January 1868) he again visited the Dispensary, but evidently without the real malady being made out. Between this period and April he complained of pain increasing at back of ear, and extending down to the angle of the lower jaw, where at this time were observed several well-defined glandular swellings. He then, also, began to sleep much when he came in from his work, felt weak, lost his usual appetite, and frequently vomited his food. He next (middle of April) consulted a medical man in Dalkeith, who gave him some glycerine to drop in his ear, and spoke as if he would soon be well. Afterwards, for change of air, he went to Melrose, where he was seen by Dr Smith. He could as yet swallow food well; but when he returned to Dalkeith, about the 18th of May, he could swallow only soft and fluid materials. There was now a good deal of diffused swelling behind the left angle of the lower jaw. The deafness had, besides, increased very much, and the pain had begun to extend to both temples, and shoot sometimes even through the right ear; and there was observed oedema of the lower eyelids when he rose in the morning. It was then (near the end of May) that he first came to my surgery. I found all the symptoms and appearances I have just described, and, as I have already said, he had still the fresh aspect of health,—no look of organic disease. From the *feel* of the enlarged glands, however, I was certain there was some concealed and serious malady. I examined the mouth and throat with a spatula, but could see nothing except a congested throat. He complained much of sore throat, and I ordered him a tannin and glycerine gargle, and 20 drops of syrup of iodide of iron three times a day. When he came back from Melrose, I should have said, he returned to his work at the Gardens, and went there intermittently until early in July, when his sight failed him much. Being satisfied as to the gravity of the case, I sent the patient with a letter to Dr Watson. I see that Dr Watson's reply is dated 4th June 1868, and that he said:—"The lad has a tumour affecting the sphenoid bone, and extending downwards to the soft palate, and, I fancy, now upwards towards the base of the brain." Dr Watson predicted that his sight, which was only then deficient in one eye, would soon be entirely gone. Besides seeing Dr Argyll Robertson on account of loss of sight in right eye, he saw, on the 16th of June, Professor Syme, who kindly wrote me the following characteristic note:—"My dear Sir,—I regret to say this case does not seem to admit of any beneficial interference.—Yours very truly, JAMES SYME."¹ On the 19th of June J. G.'s sister-in-law writes

¹ I cannot here refrain from alluding, as I have done before in this *Journal*, to Professor Syme's wonderful power of *diagnosis*. It has fallen to my lot several times to notice the correctness of his opinion as contrasted with that of other eminent surgeons. I cannot help thinking it a lasting disgrace that one who has done so much for surgery,—I venture to say, more than any living surgeon,—should still be without that recognition of his services which, at the hands of his country, he has so long and so justly deserved.

that he became stone-blind. On Friday the 26th June he went into Chalmers Hospital, as he had a great desire to be there. Dr Watson kindly allowed him to remain for a week, during which period he suffered great pain, in spite of various anodynes, blistering of temples, etc. When he returned, I noticed for the first time that there was a great change in his appearance, and that the general health had begun seriously to give way. Dr Watson was averse to the patient going to Chalmers Hospital, knowing well that he was better in *country air* at home than even in that healthily-situated institution! Once more he improved, and was able for a fortnight to walk in the open air with a guide.

About the middle of July his mental faculties became intermittently disordered, and near the end of same month he was seized with fits of violent delirium. The tumour was now growing downwards so far as to interfere much with deglutition. In the beginning of August a severe bleeding from the throat took place, after which he swallowed better; and the improvement in this respect continued till near his decease.

At this time the tumour seemed to stop growing downwards, but to extend rapidly upwards and on each side, as manifested by impairment of mental faculties, and a *fulness* on each side of temples, especially the right. He gradually got worse during this month and September, at the end of which he became free from attacks of delirium. It is worthy of note, that during all this time he was mentally quite clear and collected, excepting when under the attacks of which I have spoken.

October.—Frequent bleeding from the throat and back part of mouth again took place, and an ulcerated cavity in the tumour was visible. There was no great increase of swelling at each angle of the lower jaw. A great deal of offensive discharge came from the ulcerated cavity, which had now extended to the palate, throwing the nares and mouth into one cavity. At the end of this month the tumour was showing itself in the left cheek, cropping up from the antrum below.

The eyeballs had been for some time so congested as to lose all their natural appearance,—the left eye for some weeks sooner than the right. At an early period there was ptosis of the left eye, and by-and-by the right was completely shut, apparently from extensive cedema of the lids. Twenty-four hours before death both eyes suddenly opened, and red *fleshy* eyeballs were exposed to view.

I cannot close this imperfect account without saying how much human suffering was saved by chloroform, from the middle of October till death, which took place on the 9th November. During the last week he had no sleep but what he got from this anæsthetic, which not only relieved immediately, but generally induced *natural* sleep. Apart from it, he was never at any time in a state of coma. For the last three days he could swallow none, and death clearly took place in the way of asthenia. He required chloroform to relieve

suffering until an hour and a half before the close. During this last period he breathed softly, more and more slowly, and then passed gently away,—an *exit* worthy of the name *euthanasia*.

Sectio cadaveris was obtained on 10th November, 26 hours after death.

External Appearances.—Features greatly disfigured, nose expanded laterally, eyes protuberant, malar prominences lost in a general flattening of the countenance.

There was a small sinus on the left side of the nose, in the usual site of a “*fistula lacrymalis*,” from which purulent matter was escaping.

Internal Examination.—The scalp was reflected, and the calvaria removed in the usual manner.

There was no abnormal condition of the membranes of the brain superiorly, and the substance of the brain was healthy, except on the inferior aspect of the right anterior lobe, where it was softened, being of the consistence of cream. The dura mater at this situation was firmly adherent to the substance of a tumour, which projected in the anterior and middle fossæ of the base of the skull. The first pair of nerves (olfactory) were softened. All the other nerves were healthy at their origin. The base of the skull was much altered in appearance, the middle fossa being filled, to a greater extent on the right than on the left side, by a tumour, which imparted a boggy sensation to the usually hard osseous textures. It was determined to make a section in the mesial line, through the bones of the face and base of the skull to the foramen magnum, in order to examine, and, if possible, remove a portion of the tumour. Accordingly, the skin of the face was reflected downwards, till the superior maxillæ were entirely denuded. A section was then made with the saw through what remained of the os frontis. At the completion of the division of this bone, the saw was felt to plunge into the comparatively soft substance of the tumour, and the remainder of the section was easily completed *with the knife*. In order to remove the left half of the tumour and bones, a section was made laterally with the saw through the parietal bone and squamous portion of the temporal bone, immediately above the meatus auditorius externus, and the knife was then carried through the soft textures in the back of the throat, on a level with the palate. The portion of tumour and textures thus loosened was removed, along with a prolongation of the former, down the neck, after separation from the inferior maxilla, the coronoid process and condyle of which were found intimately connected with the substance of the tumour.

The left half of the face thus removed was seen to consist principally of the tumour substance, which had replaced the bone and other textures, whilst in a great measure retaining their form. The internal and part of the anterior and superior walls of the superior maxilla, the palatal, spongy, ethmoid and sphenoid bones, and the

basilar process of the occipital bone, were entirely gone, and replaced by the tumour, which also bulged into the mouth, almost filled the antrum, and extended both outwards and downwards into the region of the neck.

On following the cranial nerves, the branches of the olfactory could not be easily discerned, but the presence of a few was made out, passing through foramina in the tumour, where the cerebriform plate of the ethmoid had been. These foramina, however, were greatly reduced in number.

The optic nerve, though somewhat smaller than usual, was easily traced for the distance of about half an inch, when it became intimately connected with the substance of the tumour. Here the roof of the orbit (naturally bony and very thin) was composed of the tumour texture, which, at this point, was about an eighth of an inch thick. The tumour did not encroach materially on the space of the orbit, except by thickening its walls.

The third nerve was apparently normal, as also the fourth, being very little, if at all, interfered with by the tumour.

The nervous distribution to the muscles was easily followed out, and the muscles themselves appeared natural. The cornea was in a sloughing condition.

The fifth nerve, on being traced, was found to pass into the mass of tumour filling the middle fossa of the skull. In this situation there was a special spindle-shaped tumour on the *nerve*, about the size of an almond, which appeared to implicate the smaller as well as the larger root, as the former could not be distinguished. The nerve throughout its course, as also its tumour, was easily and completely separable from the general mass of the disease. The Gasserian ganglion was friable, and was much injured in the course of the dissection. All the branches of the fifth traced out were apparently normal.

The sixth nerve was not specially traced, but appeared natural.

The portio dura of the seventh nerve was followed through the aqueduct of Fallopius, but was lost on coming to the surface of the section through the temporal bone; nor could any further trace of it be discovered, where, as the facial, it should have turned round the styloid process of the temporal bone to enter the parotid.

The auditory nerve, on being traced in the temporal bone, appeared quite normal, and in no way interfered with by the tumour.

The carotid artery, as it entered the base of the skull, was quite natural, as also in the cavernous sinus; but beyond that it was considerably reduced in size, being at the point of exit about the size of a crowquill.

The ophthalmic artery was reduced to a mere thread, and was quite impervious. The arterial coats appeared perfectly healthy, and there was no trace of an embolism.

The ophthalmic vein could not be found.

On removal, and in its recent state, the tumour presented a markedly fibrous appearance. It seemed scarcely soft enough for a med-

ullary, or hard enough for a scirrhus growth, but, on microscopic examination, showed unmistakable evidence of being malignant.

The disease originated evidently in the osseous textures, for which it showed a special affinity,—the bones, to the extent already mentioned, being entirely replaced by tumour substance. The natural form of the bones was maintained, however, as shown more especially by the palatal and spongy bones.

Some portions of the tumour were softer than others, particularly on the right side, where the brain membranes were interfered with, as already mentioned. At one or two other points, also, the tumour was almost like butter, and a juice was easily expressed from it. The centre of the section of the tumour was ulcerated, especially on the right side, where a large excavated aperture existed, communicating with the nares and mouth. The portion extending downwards into the neck was uniformly of firm consistence, and apparently glandular.

The microscopical examination of the tumour showed a large number of cells, filled with nuclei and nucleoli, distributed among a fibrous tissue, which varied in its density in different sections and parts of the tumour. Sections made on the margins of the tumour—that is to say, where bone and abnormal tissue were in close proximity—showed that the fibrous element was more marked near the bone, and the cancer cells fewer; the former decreasing and the latter increasing towards the more central portions.

The softer substance on the base of the skull consisted of a large number of cancer cells and fat globules amongst scattered fibres, whilst the juice was composed almost entirely of cells.

The special tumour on the fifth nerve was of the same nature as the general disease. Nerve fibres were few and difficult to find, the cancer being apparently infiltrated among the proper nerve tissue. Immediately beyond the tumour the nerve was quite normal in structure. No nerve cells were found in the tumour.

Remarks.—This tumour, malignant in its nature, seems to have originated at the base of the skull, either from bone or periosteum. The first symptoms complained of—viz., ringing in the ears and obstruction of the nares—indicate that the disease had advanced so far as to interfere with the functions of the Eustachian tube, and partially fill the posterior nares. That this is the true explanation of these symptoms and the subsequent deafness, seems evident from the fact that the auditory nerve on the left side was found quite normal; and this was the side first and most affected with deafness.

The loss of the sense of smell was of even earlier date than the deafness, and is fully accounted for by the post-mortem appearances of the olfactory nerve.¹

¹ This sense was defective from the commencement of his illness—so much so, that when he was working at Dalkeith Gardens, he used to say to his brother that it was of no use his attempting to be a florist, as he could not distinguish the smell of one flower from another.

The ptosis, fixed and protuberant state of the eyeballs, slough of the cornea, œdema of the eyelids, and blindness, were fully accounted for by the compressed condition of the nerves supplying the contents of the orbit, obliteration of the vessels, and encroachment on the space of that cavity. The corneal slough might be accounted for by the affection of the ophthalmic nerve, were there not so many obstructions to the nutrition of the eye. The collateral circulation with the temporal, facial, and meningeal arteries was not examined, but must have been pretty complete.

The intense pain from which the patient suffered was fully accounted for by the pressure by the tumour on the nerves of the head.

It is specially remarkable that, notwithstanding the great encroachment on the space of the cavity of the skull, and implication of the membranes, and even substance of the brain, there were so few and comparatively slight cerebral symptoms. In August, only two months before the patient's death, he began to have "impairment of his mental faculties," which, however, did not progress greatly. The gradual growth and pressure of the tumour upon the brain seemed to have caused the adhesions and softening of the membranes and substance; for at the *sectio* it was almost impossible to make out by the eye or finger where the brain substance ended or the tumour began. The origin of the delirium, which lasted for about one month, evidently lay here, but the exact cause is difficult to state. There was no marked evidence of inflammation beyond the adhesion of the membranes to the tumour at the point already mentioned. The patient was never in a state of coma.

The impairment of speech was to an extent easily accounted for by the disease of the tongue and throat. The tongue was infiltrated with the cancer posteriorly. Deglutition was seriously impaired, and ultimately completely prevented, by the enormously enlarged glands of the neck.

One of the most interesting points in the pathology of this tumour is the great extent and completeness with which the disease had displaced the osseous structure of the skull. Though the tumour retained much of the form, and in some parts even density of the bones, its substance, as seen microscopically, presented none of the characteristics of the original texture. One portion, which appeared to be bone, after maceration in dilute hydrochloric acid, showed only a fibrous stroma, with cancer cells, the earthy part alone of the bone having resisted the encroachment of the tumour. And this same portion of tissue, if macerated in water, would probably have exhibited the "stellate skeleton or stroma," of which Rokitsky speaks, as being frequently found in medullary tumours of bone.¹

In the parts of the tumour nearest the healthy bone, the fibrous element was more marked, but the steps of the disease were not discernible. In no instance could I definitely make out the transition from normal to cancerous tissue. In most sections made in the im-

¹ Sydenham Soc. Translation, 1854, p. 274.

mediate neighbourhood of the tumour the entire structure of the bone was perfectly normal; and though there were frequently cancer cells to be seen here and there, I was unable to satisfy myself as to whether they originated in the lacunæ (or other parts), or were present merely by accident, having been displaced in the process of making the section.

ARTICLE VI.—*The Climate of Madeira.* By W. W. IRELAND, M.D., Fisherrow.

PART I.—MEDICAL TOPOGRAPHY AND METEOROLOGY.

THE island of Madeira lies between the parallels of north latitude $32^{\circ} 49' 44''$ and $32^{\circ} 37' 18''$, and between the longitudes of $16^{\circ} 39' 30''$ and $17^{\circ} 16' 38''$ west. It is about 300 miles west of the coast of Africa. Its length from east to west is about thirty miles, and its breadth from north to south twelve miles. Like the Azores and Canaries, the whole island is obviously of volcanic origin, formed partly by upheavals, but mainly by successive deposits of igneous rocks. Basalt, trachites, lavas, scoriæ, pumices, and tuffs are all met with at different parts of Madeira. The backbone of the island, whose loftiest peaks are about 6000 feet high, slopes towards the sea both on the north and south aspect. Madeira is indeed one mountainous range surrounded by the ocean; nothing but hill, precipice, and ravine; scarcely any level ground; and no seabeach, save at one or two points, where a powerful surf rolls about large pebbles which it has detached from the surrounding rocks. The island thus presents a considerable variety of climates, according to the different elevations and aspects. That of Funchal, which has been most carefully observed, will naturally engage our attention. The population of Madeira is about 100,000, of which 29,000 live in Funchal. This town is situated on the southern side of the island. It is built upon ground sloping towards the sea, and intersected by three deep nullahs or torrent-beds full of boulders. As their course is little more than six miles, they are generally dry, save after showers of rain, when, owing to the rapid slope, the water goes very quickly away. The widest part of the deltoid area on which Funchal is built covers the shore, extending for nearly two miles. Houses are scattered on the slopes of the hill up to the Mount Church, which is about 2000 feet high.

Funchal is surrounded by a semicircle of hills, upon the lower slopes of which it is partially built. It is thus pretty well guarded from all winds save the south. On the western extremity of the town, towards the New Road, the hills retire a little, allowing some play to breezes from the west. Owing to the rapid deepening of the shore the tides are not very perceptible. The sea is generally calm, but the harbour is indifferent, and affords little protection in

rough weather. The force of the surf makes landing difficult, though seldom attended with accidents. The vegetation partakes of the tropical character. Bananas, sugar-canes, guavas, custard-apple trees, everywhere meet the eye; and the climate is alike favourable to the vine, the fig, the orange, the apple, the chesnut, the coffee-berry, the pumpkin, the strawberry, and many other fruits both of warm and temperate regions. The flora is principally European, though introduced plants of most climates seem to grow here at one or other elevation. Flowers of brilliant hues grow at Funchal in profusion at every season of the year.

The streets are generally narrow, paved with basaltic pebbles, and, owing to the inequality of the ground, wheeled vehicles are not used. Their place is supplied by sledges, and litters for those far advanced in sickness.

The houses, for a southern town, are well built, and the *quintas*, which are kept furnished for invalids, are roomy and comfortable. Though the walls are not lathed, and there are no ventilators to the floors, they are not so damp as might be expected. Indeed, most of them cannot be called damp at all. The drainage is much helped by the rapid slope; the drains run along the middle of the streets, often at a slight depth from the surface. Trap-doors open into them from the streets, and these are used for throwing in refuse. Nevertheless, it must be acknowledged that Funchal does not in sanitary arrangements rank worse than most towns in the south of France and in Italy. The extraordinary equability of the climate, the rugged beauty of the scenery, and the ever freshness of the vegetation, strike the traveller of the north with admiration; and it is no wonder that, even before Madeira was garrisoned by British troops, its climate should have been recommended for diseases of the chest, which were then regarded in a great measure as confined to cold climates. Madeira was held by the English during the Peninsular war, and the climate thus must have become known to our countrymen. However, its advantages were not made use of until a paper, written by Dr Renton, appeared in the "Edinburgh Medical and Surgical Journal" in 1817, and the observations of Dr Heineken, published in the "Medical Repository" in 1824. This gentleman, who had come to Madeira in 1820, considered dangerously ill of consumption, lived nine years upon the island, but died at last after a cold caught in a storm at sea. Dr Renton, who examined the body, expressed himself astonished how life could have been sustained with so small a portion of the respiratory organs, there being scarcely a vestige of one lung remaining, and the other being in a condition which would not have allowed him to exist in England. Be this as it may, there is no doubt that such lesions are inevitably fatal in Madeira as well as in England. The number of cases who resorted to Madeira was at first few, but about thirty years ago Funchal began to be considered the city of refuge for the consumptive. Assuming the number of permanent residents

to be 300, there were about 200 visiters in 1840, as we learn from Dr Macaulay. In 1845 there were about 250 visiters. In each of the preceding two years, writes Mr Duncan M'Laren, there had been from 300 to 400. From 1845 to 1847 there were about 340 invalids, counting relations and attendants. I have extracted from a species of census which has been kept at the consulate since 1848 the number of visiters and residents. There are considerable variations year by year, but by adding every four years together the decline of the place is made manifest. In 1848-49 there were 373 temporary residents, counting from June to June; in 1851-52, there were 378. The average number for the four years from 1848 to 1852 was 333; for the next four years the average was 252; for the next four, 163; for the next four, 227; then for the next four, 155. The number of residents had also fallen from 276 in 1848 to 153 in 1868. This was partly owing to the decreased number of invalids, and partly to the disease in the grapes diminishing the wine-trade.

The number of invalids of other nations who resorted to Madeira never was very great. Owing to the writings of Dr Mittermayer more Germans have come than formerly; and, indeed, the equability of the temperature would be at once appreciated by a nation so fond of close rooms and so fearful of draughts. Being for the most part recommended by two German physicians who have been in the island, the cases were well selected. According to Dr Schultze, fifty-five Germans and six Scandinavians visited Madeira from 1860 to 1863. A few Americans, Russians, Swiss, and French, make up the invalid population of the place. I have been told that there were about sixty Germans during the winter of 1867-68, and between thirty and forty in 1868-69.

When it is remembered that the number of people who resort to foreign countries in search of health, or to escape the winter, has very much increased since the last twenty years, and that the number of visiters to Nice and the Riviera are to be counted by thousands, this result appears somewhat unsatisfactory. Some people trace it to the new railways giving the invalid a rapid transit through France; but then steam has also shortened the distance to Madeira, and, relatively speaking, the accessibility of the one place has kept pace with that of the other. There is no spot, however remote, that men will not seek for health's sake; and had Madeira answered the expectations with which they sought it, the number of invalids would have gone on increasing instead of diminishing. The real reason in my opinion is, that the nature and effects of the climate have been to a considerable extent misconceived, and that the consulting physicians at home have lost faith in the virtues of the climate of Funchal, owing to the altered views of the medical world upon the treatment of phthisis.

Before entering upon any discussion, it will be better to explain what I believe to be the nature of the climate of Madeira.

The barometric pressure is rather high, being about 30 inches, corrected for temperature. From the Portuguese Observatory tables, it is highest at 9 A.M., and then sinks till 3 P.M., but is found again to rise at 9 P.M.

There is no question that the climate of Madeira is one of singular equability; the range of temperature between night and day, between month and month, and between season and season, are surprisingly small.¹ Without entering into minute corrections of figures, the remarks of Sir James Clark are still substantially true. He states "the mean annual temperature of Madeira to be 64·56° Fahr.; the mean difference between summer and winter, 9·38°; mean difference between the coldest and hottest months, 14·50°; the mean difference between successive months only 2·41°; difference between winter and spring, 2·70°; between spring and summer, 7·13°; between summer and autumn, 2·10°; between autumn and winter, 7·73°. The differences of successive months are, between January and February, 1°; between February and March, 2·56°; between March and April, 1·44°; between April and May, 0·50°; between May and June, 2°; between June and July, 5°; between July and Au-

¹ The inquiring reader, who wishes to put questions about the meteorological observations, and other matters briefly discussed in this article, ought to consult the following works:—

1. *Madeira: its Climate and Scenery. A Handbook for Visitors.* By Robert White and James Y. Johnston. 2d Edition. Edinburgh, 1860.—This is by far the best book on the subject; indeed, most of those which followed have been copied from it, in one form or another, with or without acknowledgment.

2. *A Treatise on the Climate and Meteorology of Madeira.* By the late J. A. Mason, M.D. (inventor of Mason's hygrometer). Edited by James Sheridan Knowles, etc. London, 1850. Pp. 385.—This is the ablest attempt to estimate the character of the climate of Madeira, though the author has fallen into some errors of detail.

3. *Noticia sobre o Clima do Funchal e sua influencia no Tratamento da Tisica Pulmonar.* Lisboa, 1854. Pp. 347.—This praiseworthy treatise has, I believe, been translated into French by P. Garnier. Paris, 1858.

4. *Die Insel Madeira.* Von Dr Rudolf Schultze. Stuttgart, 1864. Pp. 146.—This book, principally gleaned from those of White and Barral, is wanting in the mastery of the subject, learning, and diligence which characterize the rich scientific literature of Germany. His assertion that cod-liver oil is a useless medicine for phthisis (p. 3); that where percussion, auscultation, and microscopy fail to make out the diagnosis of phthisis, Hutchinson's spirometer will put an end to all uncertainty (p. 6); as well as the wonderful piece of information that the yearly deaths in France are one to every forty; in England one to every sixty inhabitants; and in London one to every forty; and of these deaths in London one from every five is from phthisis (pp. 113–118),—show how unfit Dr Schultze was to write upon the subject.

Add to this list.—*The Climate of Madeira: an Examination of the different Opinions as to its Value in Chest Disease.* By George Lund, M.D., of Funchal, Madeira (London, no date). Reprinted from the *Association Medical Journal*, Sept. 2, 1853.—*The Climate of the Island of Madeira.* By James Mackenzie Bloxam, Esq. (London, 1854).—*Madeira as a Residence for Invalids.* By F. D. Dyster, M.D., F.L.S. (London, 1854).—These three pamphlets were provoked by the publication of Dr Burgess's work on the *Climate of Italy* (London, 1852).

gust, 3° ; between August and September, $1\cdot50^{\circ}$; between September and October, 4° ; between October and November, $4\cdot80^{\circ}$; between November and December, $2\cdot20^{\circ}$; between December and January, 1° ." For days together there is no appreciable difference between the day and night, at least in the shade; for the difference between the temperature in the sun and the temperature indoors is much greater than at home—according to Dr Mason it is fully double. Moreover, the range of solar radiation varies much more from day to day, and during the same day, than it ordinarily does in England.

This equability of temperature is dependent upon several circumstances: the situation of Madeira, a small island surrounded by a vast body of ocean; the sheltered position of Funchal from northerly winds; and, lastly, the opposition given to radiation, not only by the clouds, but also by the large amount of invisible moisture suspended in the atmosphere.

The rainy season of Madeira differs from that of India, by occurring at the coldest instead of the warmest period of the year. The rains prevail in October, December, January, and February, with occasional showers in March and April. In June, July, August, and the greater part of September, there is very little rain. The rainfall of Funchal has been pretty well ascertained to be about 30 inches, distributed in the following percentage:—Winter 48, spring 17, summer 4, and autumn 31. The number of rainy days may be 88, but appears to be increasing. This rainfall, about the same as the average of the whole of France, does not far differ from that of the east coast of Great Britain. It is much exceeded in many parts of the tropics; for example, in Barbadoes it is 79 inches; in Jamaica, 103; in Dacca (Bengal) it is 77; in Jessore, 81. In the interior of warm countries, like Upper Egypt or Peru, there is very little rain. The highest rainfall of thirty-two stations in the plains of the Punjab during the year 1867 was Umballa, 38 inches. There were only seven stations on the plains above 30 inches; seven stations below 20 inches; and seven below 10 inches; the lowest being Gogaira or Montgomery, $3\cdot8$. But the truth is, neither the rainfall nor the number of wet days will accurately determine whether a climate is wet or dry. Nor is there, even far from the sea, a constant relation between the rainfall and the hygrometer. Dr Mason deduced the mean percentage of aqueous vapour in the atmosphere of Funchal from Dr Heineken's observations as follows:—Winter 77, spring 72, summer 80, autumn 86; their mean temperature being stated by Heineken and Renton as, winter $60\cdot60^{\circ}$, spring $62\cdot36^{\circ}$, summer $69\cdot56^{\circ}$, autumn $67\cdot30^{\circ}$.

Here it is necessary to make a few preliminary remarks about the hygrometric state of the atmosphere, since we have noticed that some distinguished living physicians have fallen into egregious mistakes on this subject. It must never be forgotten that a comparison between the hygrometric scale, formed by a comparison between the

wet and dry thermometers, does not give us the absolute humidity of the air—that is, the amount of moisture in a cubic foot of air. When, therefore, we are told that the percentage of aqueous vapour suspended in the atmosphere at Funchal is 73, all we learn is that the relation between the actual amount of watery vapour and its condition of greatest density, what is commonly called saturation, stands as 73 to 100. But the amount of fluid which the atmosphere can hold is dependent upon the temperature. Neither will the difference between the wet and dry bulbs give us a clear idea, unless we have also the known degree in the thermometric scale. Take, for example, 50° , the mean temperature of Torquay, and assume that the dry and wet bulb thermometers stand at 50° and 45° ; then take 66° , the mean temperature of Funchal, and assume the dry and wet to stand at 66° and 61° , it is clear the difference between the two bulbs would be the same—namely 5° ; but the degree of humidity would be 68 for Torquay, and 73 for Funchal. Then the amount of fluid in each cubic inch of air would be 2.8 grains for Torquay, and 5.1 for Funchal. In the same way, a height of 67 in the hygrometric scale (saturation being 100) would denote that there were .6 of a grain in a cubic foot of air at 10° dry bulb and 9° wet bulb. But if the temperature stood at 49° dry and 44° wet, the degree would still be 67, but the fluid would be 2.7 grains; at 99° dry and 91° wet, the degree would still be 67, but the moisture in a cubic foot of air would weigh 13 grains.

Mr Mackenzie Bloxam, in opposition to Dr Burgess, insists that there is a material difference between air at saturation at 50° and air at 68° , both holding in suspension the same amount of moisture, as the higher temperature enables the air still to take up as much more; and this would be quite *à propos*, if we were reasoning about the drying of a shirt on a hedge; not so when we come to treat of the physiological action of heat and moisture upon the living body.

Air, moisture, and heat act upon the lungs and skin; the air, entering the minute vesicles of the lungs, becomes loaded with moisture to saturation, and is, ere it is expired, raised to the height of the bodily temperature. Now, if air at saturation at 50° enters the lung, it will be able to take up a great deal more aqueous vapour from the blood than it would do if it were already saturated at 68° ; and again, if a man were to breathe air saturated with moisture at the temperature of 99° Fahr., it is clear that no exhalation of watery vapour would come from the lungs at all, nor would the inspired air allow any addition to its temperature. The lungs exhale a considerable amount of watery vapour, ranging from 6 to 27 ounces; the mean quantity varies between 16 to 20 ounces. Moreover, the lungs exhale not only carbonic acid, but some imperfectly oxidized albuminous compounds, and there is reason to believe that these processes cannot be arrested or diminished without affecting the economy to a considerable extent. Dr Mason distinguishes carefully between cutaneous evaporation—a physical

phenomenon which would go on even in the dead body—and perspiration or the secretion of the sudoriparous glands. When the former of these processes—the physical evaporation of moisture—is checked, by the body being immersed in humid air at a high temperature, the vital act of perspiration is increased, and the sweat poured forth abundantly from the open mouths of the sweat glands; hence the two processes stand in a certain ratio to each other, but the perspiration is not poured out in any abundance until the temperature is raised to above 68° . One thing, however, admits of no doubt, that a continual transpiration of moisture takes place from the skin, which, heated up to the temperature of 97° , with its radiation obstructed by clothing, causes the sweat to be removed by a constant process of insensible evaporation. The presence of moisture in the air impedes the process in proportion as the air is saturated up to the temperature of the body. If the body is surrounded by air of its own temperature, but very dry, evaporation will take place with great rapidity, and the surface of the skin be cooled. On the contrary, if the air is at or above the temperature of the body, and saturated with moisture, the power of regulating the animal heat possessed by the skin will be destroyed.

The skin gives off a considerable proportion of fluid as well as the lungs; but it is evident the suppression of perspiration cannot be perfectly replaced by any extra activity of the pulmonary exhalation, since animals in which the cutaneous perspiration is artificially arrested soon die with a remarkable sinking of the temperature of the body.

Moisture in the air at a high temperature tends to arrest the passage of vapour from the lungs, and to diminish the rapidity of the superficial evaporation, and the *vis a tergo* force of the sudoriparous tubules; hence the sense of oppression and suffocation caused by moist heat.

At first people believed that the climate of Funchal was a dry one, probably from the rareness of dew, owing to the equability of the night temperature; nevertheless the humidity of the climate could very well be made out by an attentive observer without the use of instruments. Iron rusts speedily, shoes or boots put out of the way are soon covered with a fungus mould, and salts rapidly deliquesce. Dr Macaulay¹ “noticed the great difficulty of drying and preserving his botanical specimens, as compared with experience in other places.” The observations of Dr Heineken, however, might be considered to settle the question, and are still worthy of being consulted. Other observations upon the moisture of the air have been contributed by White, Barral, Mittermayer, and others. Heineken’s results were taken from one daily observation at 10 A.M., during the year 1826; Mr White’s are the mean of three daily

¹ Notes on the Physical Geography, etc., and Climate of the Island of Madeira (reprinted from the Edinburgh New Philosophical Journal, October 1840), p. 30.

observations, at 9 A.M., 2 P.M., and 7 P.M., during 1850-51; and Barral's of three observations, at 7 A.M., 2 P.M., and 7 P.M.; Azevedo's from four observations at the Observatory, 1867. Let us now consider the temperature and humidity of the seven months which visitors generally spend on the island.

	Heineken.		White.		Barral.		Azevedo.	
	Mean Temp.	Humidity.	Temperature.	Humidity.	Temperature.	Humidity.	Temperature.	Humidity.
October . . .	66·76°	84	70·58°	74	68·21°	71·3	74°	63·3
November . .	63·96	87	66·85	71	65·81	73·3	65	77·5
December . .	61·44	82	62·80	75	61·50	75·2	61	73
January . . .	59·71	70	62·18	73	60·40	73·5	61	75·7
February . .	60·28	72	64·94	75	57·57	69·1	63	63·4
March	61·86	66	64·63	69	59·93	68·7	63	72·6
April	62·03	65	68·35	72	66·85	70·6	64	61·7
Mean of 7 months	62°	75	65·8°	72	63°	71	64·4°	69·6

Thus, according to Heineken, we have a mean temperature of 62°, with a mean humidity of 75, giving 4·5 grains of aqueous vapour in a cubic foot of air, or saturation at 53°. By Mr White's observations we have a mean temperature of 65°, with a degree of humidity of 72·7, giving about 5 grains of vapour to the cubic foot, or saturation at 56°. According to Barral, we have a mean temperature of 63°, a mean humidity of 71, giving 4·5 grains of aqueous vapour to the cubic foot, or saturation at 53°. From Colonel Azevedo's observations at the Funchal Observatory 1867,¹ we have a mean temperature of 64·4°, a mean humidity of 69·6, giving 4·6 grains of vapour, being saturation at 53·5°. There is thus no question that the amount of moisture in the air of Madeira is considerably greater than what it could be at home.

The mean annual amount of moisture in England, for twenty-seven years' observations made at Greenwich, is 3·4 grains. For the seven highest months it is 3·9, and England is not generally regarded as a country with too little moisture. It is in the most humid localities that phthisis is most frequent, and the driest ones are regarded as the best abodes for consumptive invalids.

During the year 1861, the humidity of Scotland, according to Oliver and Boyd's Almanac, was declared excessive—it was 86, the mean temperature being 46·9°. This would give about 3·2 grains of moisture in the cubic foot of air.

The mean temperature of Torquay is about 50°, the humidity 76, giving about 3·1 grains of moisture in the cubic foot; yet Walshe, in his "Diseases of the Chest," declares Torquay to be moister than Madeira, which is physically impossible. Moreover,

¹ These will be referred to further on. Mittermayer published no observations for October and November—his results do not substantially differ from the rest. In calculating the amount of vapour in the air, I have used Glaisher's tables, and have occasionally cut off awkward fractions.

during the winter, the mean temperature of Torquay is only 44° , which, saturated, could only contain 3.1 grains. The Azores are generally treated as the most humid of the European winter climates, and no doubt they stand higher in the degree of relative humidity. In the tables published by the Portuguese Government,¹ we find Reports of Meteorological Observations from January 1867 to May 1868, from which I have calculated that the absolute amount of moisture in the air, indicated by the dry and wet bulb thermometers at Ponte Delgada, St Michael's, and Funchal, almost exactly tallied during the seventeen months of which we had reports.² No doubt, to a popular observer the climate of the Azores—like Madeira, a very equable one—must appear damper, because, owing to the lower mean temperature and the range more frequently passing the dew-point, there must be a much greater deposition of dew, and more mist and drizzle than at Funchal. At Teneriffe, however, the climate is drier. In the account published by Chambers³ of a visit to that island in November, two observations made with the hygrometer, in two several days, marked the dew-point 41° , the thermometer " 75° , giving 34 of dryness" and 2.8 grains of moisture, "a state only once remarked by Dr Heineken during a nine years' stay in Madeira. The day after it marked 40° ; this latter is a rarity, but the former is very common throughout the year."

On the other hand, Cidade da Praia, in the Cape Verde Islands, with a lesser degree of relative humidity (the mean being 52 to a mean temperature of 80° , for seven months from January to July 1865), but with a higher temperature, contains about one-eighth more moisture than Funchal. Except during the rainy months which occur in the hot season, the air of the Punjab, which lies in about the same latitude, is much drier than Madeira.

It is difficult to measure the quantity of ozone at different places, different barometric pressures, and different states of moisture and motion of the air, not to mention the vicinity of human dwellings, for ozone is always deficient in the middle of large towns. Taking into consideration the temperature and humidity of the air of Funchal, the quantity of ozone, as tested in the scale of Berigny, appears to be moderate. It is less than at Ponte Delgada and Angra do Heroismo, but greater than at Campo Maior.

No doubt the amount of moisture in the air at Funchal is variable. In the year 1834 there was an unusual continuance of wet weather. This explains the large amount of moisture found in the air by Dr

¹ Annaes do Observatorio do Infante D Luiz volume terceiro 1865, No. 4.—Março a Novembro. Lisboa, 1866.

² The height of the Observatory at Ponte Delgada is given at 20 metres, that of Funchal at 25 metres; hence it is likely that the atmosphere there is absolutely drier than at Funchal.

³ Chambers's Miscellany of Useful and Entertaining Tracts, No. 64—A Visit to Madeira and Teneriffe.

Mason's careful experiments, which gave nearly the double of the quantity found by Mr M'Euen in 1848. I attach little importance to the objections made against the placing of the instruments of an expert meteorologist like Dr Mason. It would be tiresome to discuss the question. From Dr Lund's observations, it appears that the amount of moisture in the hills during the summer is very considerable; for even when there is no rain, the increased power of the sun brings additional moisture from the surrounding sea. The following are his observations, made in 1850 at Santo Antonio da Serra, 1910 feet above the level of the sea.

		Dry bulb.	Wet bulb.	Weight of vapour.
June. .	{ 9 A.M.	64·33°	59·25°	5·2 grains.
	{ 2 P.M.	64·92	59·16	5·1 "
	{ 7 P.M.	58·75	56·42	5·1 "
July. .	{ 9 A.M.	65·77	60·53	5·4 "
	{ 2 P.M.	65·68	60·63	5·4 "
	{ 7 P.M.	61·95	57·92	5·2 "
August	{ 9 A.M.	65·19	58·92	5·1 "
	{ 2 P.M.	67·20	61·02	5·4 "
	{ 7 P.M.	63·04	57·52	4·8 "

Mists are not uncommon in the hills during summer, but rain is not very frequent.

Funchal, like most maritime places in southern latitudes, has a sea and a land breeze morning and evening. During the rainy season these are not very regular. The best weather comes with the north and north-east wind: the south or the south-west wind brings rain; the north-west, cold and rain.

The *leste* is a dry wind blowing from the African coast. It raises the temperature, but seldom much higher than 80°. While it blows, it is hotter at a considerable elevation in the hills than at Funchal, probably because the lower flights of the African sirocco have been cooled by evaporation from the surface of the intervening ocean. Dr Mason observed during *leste* a difference of 22·5° between the dry and wet bulbs, and Mr M'Euen a difference of 21°, showing only 18 per cent. of moisture in the atmosphere. There was one while I was in Madeira with a difference of 17° between the two bulbs. The *leste* does not often blow during the cooler months, and seldom lasts more than three days. Dr Mason considered that if it disagreed with a person, it was a sign that Madeira agreed with him. I have not been able to make out that experience has confirmed Dr Mason's rule. Invalids sometimes suffer severely from it—an undescribable uneasiness, which some try to relieve by going out in a boat.

It may perhaps appear ungracious to make remarks in any way lowering to the worth of observations whose value I appreciate highly, and which were communicated to me in a most kind and courteous manner; nevertheless, few will deny that the situation of

the Observatory at Funchal might in some respects be improved. The present observatory is above the bastion of the gate, in the fort near the sea, looking over the Praça da Constituição. The instruments are in a small square tower about 8 feet by 8, and perhaps as many feet high from floor to roof. The windows open like two doors, meeting at the middle, as is customary on the Continent; they are guarded by Venetian blinds, as is the upper part of the door which admits the air. The wet-bulb thermometer hangs on the wall, between the door which looks north and the window which looks west. The whole tower is open to every wind that blows, and must be in a continual draught or swirl, causing the wet bulb to evaporate more rapidly. The reverberation of light from the whitened wall must fall upon the air thermometer. The tower is about 25 metres above the sea, and perhaps 40 feet above the ground. It is hardly necessary to remark, that this will diminish the contents of the rain-gauge, and prevent an accurate comparison between such observations as those of the Scottish Meteorological Society, which are taken from instruments placed about four feet above the ground.

By actual comparison of thirty-three observations made by Dr Lightbody, at Reid's Hotel, about the same elevation of soil, but four feet above the ground, there was found to be 6·2 grains more moisture, or $\cdot33 = \frac{1}{3}$ of a grain per diem, at the lower elevation. The comparison with observations made in another locality by Miss Ivory at Quinta Jasmineiros, also proved the moisture was greater near the ground.

As will be noticed, French instruments and scales of measurement have been used in the following Table, nor have I ventured to change them.

Abstract from Meteorological Report of Observations taken at the Observatory in Funchal, 1867.

	Maxima media. C.	Minima media. C.	Mean. Temp.	Range of month.	Deg. of relative humid.	Barometer.	Ozone.	Days of rain.	Rainfall in milli- metres.
January . .	19·13	14·91	16·84	8·8	75·7	761·55	8·8	15	216·1
February . .	20·04	14·69	17·46	12·0	63·4	767·17	6·6	3	10·5
March . . .	19·61	15·15	17·26	8·6	72·6	758·05	8·1	18	158·7
April . . .	23·7	15·38	18·03	8·7	61·7	764·71	6·6	0	0
May	20·58	16·21	18·40	7·0	65·	761·85	7·2	7	22·2
June	22·04	18·07	20·13	6·6	68·5	762·95	6·1	7	28·9
July	23·74	19·82	21·91	7·1	69·1	764·28	5·0	0	0
August . . .	24·54	20·12	22·56	6·2	67·5	763·52	4·7	0	0
September .	24·30	19·22	21·90	8·0	64·3	763·73	5·7	4	13·4
October . .	23·0	17·59	23·6	9·5	63·3	762·99	6·7	8	44·1
November .	25·1	16·18	18·36	8·8	77·5	759·56	9·0	18	358·4
December .	18·53	13·69	16·03	12·3	73·0	761·05	8·5	21	61·2

(To be continued.)

ARTICLE VII.—*Further Observations on the Treatment of Aneurism by Iodide of Potassium, with additional Cases.* By GEORGE W. BALFOUR, M.D., F.R.C.P.E., Physician to the Royal Infirmary, and Lecturer on the Practice of Medicine and on Clinical Medicine.

DURING the past twelve months I have had under my care several cases of thoracic aneurism, all of which have been treated with the iodide of potassium, and in all of them this treatment has been attended with such a measure of success as fully to justify the encomium I formerly pronounced upon it as holding out a better prospect of relief, if not of cure, than any other method hitherto devised for the treatment of internal aneurism.¹ In my former paper I carefully pointed out the many fallacies which embarrass us in making up our mind as to the value of any special treatment in such a disease as thoracic aneurism, in which the symptoms occasionally undergo spontaneous abatement, without any real improvement having taken place; the cases I am now about to relate will, I think, convince even the most sceptical inquirer that, in many cases at least, a real improvement does take place, the permanence of which must depend upon various circumstances, over which neither physician nor physic have any control. The value of the treatment is shown in the fact, that not only relief to symptoms, but positive improvement has been obtained in every case which has submitted to it for a sufficient length of time; while there are many facts which tend to prove that iodide of potassium is not only curative in aneurisms already developed, but that it also acts remedially and prophylactically in the aneurismal diathesis; a much better thing both for physician and patient.

In accordance with the request of some of my professional brethren I have, as far as possible, kept my eyes on the cases formerly reported on, and shall commence this paper by continuing their histories down to the present time.

CASE I.—Peter Rice, labouring under *aneurism of the aorta*, has been repeatedly under observation during the past twelve months. When first dismissed he acted as night-watchman for a month or two; he was then appointed to an institution for the care of orphan children, and he walked about with them, and took them to and from school; latterly, I believe, he has set up a small shop, as the easiest means of making his living. He has continued to take the iodide of potassium, latterly more irregularly; he continues quite as well, quoad the aneurism, as when dismissed; there is the same dull thud as formerly in the second intercostal space, but no pain nor any uneasiness has ever been complained of.

¹ Edinburgh Medical Journal, July 1868, p. 42.

CASE II.—John Kerr, supposed *aneurism of the abdominal aorta*, left for a trial voyage, but never returned, and was given up as lost, and probably dead, when, in January of this year (1869), the nurse got a letter from him dated Australia, and saying that he was now so well, nearly a year after his discharge, that he was about to give up the sea and go to the gold-diggings.

CASE III.—James Wilson, labouring under an *aneurism of the innominate*, implicating the carotid and subclavian arteries, also an aneurism of the abdominal aorta, and a general aneurismal condition of the vessels. This man laboured for many months comfortably, and without inconvenience, at his trade of mason, avoiding, as desired, any heavy lifts; he has now, however, got an easier berth in connexion with the Caledonian Railway. His abdominal aneurism may still be felt as a hard, firm knot, now much diminished in size. His innominate aneurism never troubles him, giving rise to no symptoms; but it is not consolidated, neither, however, is it any longer a true aneurism, at least it presents no symptoms of such a tumour, being to all intents and purposes restored apparently to the condition of an elastic artery, enlarged of course, but still an artery, fusiformly dilated no doubt, but no longer bulging as it did as a pulsating globular tumour stretching across the trachea, and no longer giving him any discomfort or uneasiness.

CASE IV.—*Aneurism of the aorta*.—Peter Reid, hotel-porter, aged 46, admitted into Ward VII., June 18, 1868. This man was drunk when admitted, having avowedly taken spirits to nerve himself for his apparently rapidly approaching dissolution. He had intense dyspnœa, amounting to complete orthopnœa, violent, harassing, but dry cough, and felt and looked as if on the point of suffocation, while a large, soft, projecting and pulsating tumour seemed to threaten him with death in another form. He was ordered at once fifteen minims of chlorodyne, to be repeated every half-hour till the cough was quieted, and also

R Pot. iodidi, ℥ss.

Infusi chiritæ, ℥vi. Solve.

Sig., One tablespoonful (℥ss.) three times a day.

He was also, of course, desired to keep his bed, in which he was supported in a semi-erect posture, and to restrict his food and drink. Within twenty-four hours this man expressed himself as somewhat relieved, and in a few more he began to breathe more freely. He is an old soldier, and about twenty-four or twenty-five years ago was cupped in a military hospital for palpitations, which continued more or less after his discharge, till about ten years past, in the end of February (Feb. 1858), he came into this hospital on account of excruciating pain in the right side and down the right arm, which he had felt for some months previously. There was also at that time a slight swelling, accompanied by pulsation, to the right of the sternum.

This pain was always most excruciating in winter, when he caught cold or had any unusual exertion. After eighteen months the tumour protruded externally, and the pain then ceased to be so agonizing. During the last eight or nine months the tumour has grown more rapidly than it has done for years, and this he attributes to the extreme violence of the cough. He has been under various physicians both here and in London, and has been, so far as he knows, mainly treated with digitalis and hyoseyamus internally, and the application of ice externally. To the right of the sternum there was a large pulsating tumour, extending from the third to the seventh ribs, and projecting fully an inch and a half beyond the level of the ribs. Part of this tumour was solid, but part, rather beneath the middle, was soft, painful to touch, projected conically, and pulsated fluidly. Dulness extended for fully five inches all round the centre of the tumour, passing into the liver dulness beneath. The pulse in the right arm was smaller than that in the left. The heart's apex beat between the sixth and seventh ribs and one inch to the right of the nipple, but there was no apparent hypertrophy, and the cardiac dulness was about normal. There was displacement but not enlargement, neither was there any anormal bruit either over the heart or tumour. The right pupil was somewhat dilated. There was considerable pain in the side and down the right arm, but nothing to what it had been. After the patient had somewhat recovered from his frightful condition on entrance, a belladonna plaster was applied over the tumour, and the chlorodyne was gradually stopped as the cough ceased, which it had almost entirely done by the 12th of August, at which date the patient looked, felt, and expressed himself as much relieved; the pulsation in the tumour was much less forcible than formerly, and the tumour itself was flatter and more solid. On the 31st of August an ice-bag was substituted for the belladonna plaster, but was only continued for four days, because, although it felt comfortable to the patient, and relieved the distressing pulsations, it increased the cough very much; the belladonna plaster was, therefore, reapplied. At this date he expressed himself as feeling very comfortable, and able both to breathe and swallow easily, neither of which he could do formerly, while the tumour was gradually decreasing. On the 21st of September, however, the cough had again become very troublesome, accompanied by a distressing tickling sensation in the larynx, and an increase in the aneurismal pulsations, which were just as bad as they had formerly been. Chlorodyne made him sick, so he was ordered—

R Morphiæ hydrochloratis, gr. i.
 Acidi hydrochlorici dil., ℥v.
 Acidi hydrocyanici dil., 3ss.
 Syrupi scillæ,
 Aquæ fontanæ, āā ʒi.

Sig., One teaspoonful every two or three hours. Fifteen-minim

doses of chlorodyne to be given p. r. n., if he can be persuaded to take them; the iodide of potassium to be continued thrice a day, and the exterior of the larynx to be painted with iodine liniment. In a couple of days the cough was much relieved, and he continued improving up to the 8th of November; on the evening of which day he was suddenly seized with inability to move his left arm, and complete loss of pulse in it; he expressed himself as feeling great pain in the left side of the heart, but there was nothing anormal in the heart's action. By next day the pulse had returned, but the arm continued feeble for a few days. On the 10th of November a very violent serous diarrhœa set in, for which he was ordered—

R Plumbi acetat., gr. iii.
Pulv. opii, gr. i. Ft. pil.
Mitte tales, xii.

Sig., One to be taken every hour till the diarrhœa is checked, or sleep ensue; to be gradually dropped as improvement takes place.

Believing this diarrhœa to be a mere accident and not an evidence of iodism, the iodide of potassium was not stopped. The diarrhœa was much relieved by the next day, and ceased entirely in a day or two. At this date, the end of November, after five months' treatment, the patient's improvement was quite remarkable, the pulsation in the tumour very much lessened, the tumour itself perfectly solid at every part, and visibly decreased in size. I still, however, kept the patient in bed, and continued the treatment, in the expectation that I should ultimately have the pleasure of seeing the complete disappearance of even this large projecting tumour—an expectation which my experience leads me to consider well founded. Unfortunately, about the end of December, my patient caught cold; so I then thought; I am now inclined to attribute to another cause the violent cough which then set in. Upon the 30th of December, at the visit, he was seized with violent spasmodic pain in the left short ribs, for which a mustard cataplasm was applied, with full doses of chlorodyne, to be repeated as required. This pain was speedily removed, but now and for some time afterwards he complained of feeling choky, and was harassed by a dry clanging cough, which resounded from one end of the ward to the other. For this iodine liniment was repeatedly painted over his chest, opium and morphia in every conceivable form, and in almost poisonous doses, hydrocyanic acid, and inhalations of chloroform, and of a solution of conium in chloroform were unavailingly persevered in for about a month. Towards the end of January, fifteen-minim doses of chlorodyne being still allowed, P other narcotics were stopped, and five minims of tincture of acon. Ph. were added to each dose of his iodide of potassium mixtr which he had four doses in the day, each containing half a of the iodide. The aconite was ordered to be gradu-

ally increased by drop doses daily. How far it was pushed I am not quite aware, because it was added by the house-physician himself. I am well aware, however, that the relief to the cough was very slight, and I also know that towards the end of February I happened to look into the wine-roll, and found, to my horror, that Reid was getting four ounces of brandy daily. This I immediately knocked off, with far more relief to his cough than I had been able to give him by all the narcotics I had been so lavishly pouring into his system. I found that he had over-persuaded the house-physician, stating that he was weak, accustomed to stimulants, and would never get better without them—all the ordinary arguments for self-indulgence. I found also that he had commenced with a pint of porter on 3d December; that this had done him no harm; but an advance to four ounces of whisky on the 24th December had been very speedily followed by an exacerbation of his cough, not lessened by a retrogression to a whole bottle of pale ale on the 12th of January, probably increased by a change to four ounces of brandy on the 25th of January, and only remedied by knocking off all stimulants on the 25th of February. I at once saw that no more good was to be done: the element of mutual confidence was lost. I therefore permitted Reid to rise every day and walk about the ward; the iodide mixture was continued, but the aconite was stopped; and I must say, that not one of my patients ever rose from their beds such a scarecrow as Reid did. This I attribute partly to the stimulants he had unfortunately obtained, and partly to the narcotics by which the evil results of his self-indulgence were so unavailingly sought to be neutralized. He was kept in hospital for three weeks longer, during which time he continued to improve, and was then dismissed on the 20th of March to go to his home in London. Thus this poor dying creature was, after nine months' treatment, dismissed in a comparatively active condition, and both looking and feeling well. A cast taken from the projecting tumour, about a month after his admission, and one taken just the morning of his discharge, show a very evident diminution in its bulk; while, in a letter which I have recently (24th May) received from my former house-physician, Mr Frank H. Hodges, he says—"I called on Peter Reid on the 28th of April, and found him in a very satisfactory condition, the tumour had considerably diminished in size (since his discharge), he was quite free from cough, and went out for a constitutional daily."

The next case is not so decidedly one of aneurism, but it is at all events one of *aneurismal dilatation of the aorta*, with diseased coats, and affords very evident proof of the relief obtained even in such cases from the treatment recommended.

CASE V.—Thomas Moody, æt. 39, a slater, from Crossgates, Fife, admitted to Ward VII. on 11th July 1868. He stated that for sixteen months he had been complaining of severe pain across

the upper part of the sternum, and a sensation of breathlessness. On examination, dulness was found to extend across the whole of the upper part of the sternum. The cardiac dulness was normal, or very nearly so, apex beat between the fifth and sixth ribs. The first sound healthy, the second wanting, and replaced by a double bruit, loudest during the diastole, as heard at the aortic cartilage. This double bruit was propagated upwards along the arteries, but the systolic part of it was heard markedly louder and rougher over the left carotid artery than anywhere else. The finger pressed deep into the tracheal fossa came in contact with a pulsating body. The other organs and systems were natural.

R Pot. iodidi, \mathfrak{zvi} .

Infusi chيراتæ, \mathfrak{zvj} . Solve.

Sig., \mathfrak{zss} . ter in die.

To remain in bed, and to restrict himself somewhat in regard to his food and drink. The patient very speedily expressed himself as greatly relieved; in a fortnight the rasping bruit over the left carotid was found to be much softened, the pulsation in the tracheal fossa was still perceptible, but not so much so as formerly, and he was discharged, at his own request, on the 3d of August 1868. There was in this case no history either of rheumatism or syphilis.

The next case, on the other hand, is not only a very well-marked but also a very remarkable case of *aneurism of the aorta*, one which even taken singly would be sufficient to attract attention to the treatment propounded, but which, when regarded as only one of a series, provides indeed a very forcible illustration of the good effects to be derived from it.

CASE VI.¹—Andrew Jamieson, a carter, aged 40, admitted into Ward II. under Professor Bennett's care, January 31, 1868. About eighteen months ago the patient had an attack of pleurisy in his left side; with this exception, he has been always healthy. About twelve months ago, without any known cause—as he is not aware of having strained himself in any way, though constantly in the habit of lifting heavy weights into his cart—he first felt a severe and constant aching pain in the left side of his chest, over a spot about the size of a crown-piece, situate about two inches above the nipple. This pain was much increased on making any exertion or on stooping. To relieve it he applied several mustard poultices, and took cod-liver oil, without, however, deriving any benefit. Notwithstanding the pain he suffered, he continued work up to July 1867, but he was then compelled to give it up entirely on account of his sufferings. The pain was now more severe than ever; his breathing short and wheezing; he had a troublesome cough, worse on making any exertion; he experienced a choking feeling when he stooped, and he felt a difficulty in swallowing any solid food,

¹ The history of this case is partly condensed from the Clinical Records of Ward II.

which seemed to stick opposite the upper margin of the sternum. His voice also now became weak and somewhat hoarse—*vox anserina*—and he felt a disagreeable pulsation in his chest. For these symptoms he unavailingly sought relief in the Glasgow Infirmary, and finally came to Edinburgh. Up to the period of admission the pain had spread very much over the upper part of the chest, but he does not think that the other symptoms had increased; he has never had any headache or hæmoptysis. The pulse at the left wrist is almost imperceptible. The right pulse is 84, of moderate strength, and slightly jerking. Cardiac dulness, not noted. The heart's apex beats three inches below, and a little external to the nipple line. Only the first sound is heard at the apex; both sounds are heard at the base normal. Over the upper part of the left side of the chest, anteriorly, there is a distinct bulging, most marked over the second rib and second intercostal space. Over a spot, about the size of a crown-piece, there is a distinct impulse communicated to the stethoscope; over the left side, there is dulness on percussion from the clavicle to within two inches of the nipple line, extending across to the opposite sterno-clavicular articulation. Over this dull area a double blowing murmur is to be heard; "the second sound, however, being very feeble, and heard most distinctly over the sternum, opposite the articulation of the second rib, also heard over the great vessels at the root of the neck."¹ At the right apex the inspiration is harsh and the expiration prolonged; over the left apex, anteriorly, the double murmur referred to completely obscures the sounds of respiration, which are everywhere else normal. The patient has a very loud and frequent cough, of a clanging metallic character, without expectoration. The patient complains of severe dull aching pain on the left side of the chest, from below the clavicle to the level of the nipple; this occasionally extends to the right side. He gets only occasional short snatches of sleep, owing partly to the pain referred to, and partly to the frequent recurrence of a choking sensation, referred to the throat. His tongue is clean, appetite bad, but bowels regular. Urine spec. grav. 1030, with deposit of urates, but otherwise normal. There is a slight puffiness of the integuments over the upper part of the sternum, and the veins over the dull area are visibly enlarged. He was ordered steak diet (Royal Infirmary diet tables), and

R Tinct. ferri perchlor., ʒi.

Aquæ, ʒvi.

Sig., One tablespoonful three times a day.

4th February, the patient continues much the same as on admission. He still chokes on his food, and requires "a drink to wash it down." His cough and spasms of choking are very violent, and of frequent recurrence. Ordered to take fifteen minims of sulphuric

¹ I here give the *ipsissima verba* of the report. The second sound refers, I believe, to the diastolic blowing heard over the tumour, but the expression is ambiguous.

ether in water, when the cough comes on. 12th February, pain and cough both worse; ordered—

R Tinct. camph. co., \mathfrak{z} i.
Mucilaginis, \mathfrak{z} i. M.

Sig., \mathfrak{z} i. pro dose, p. r. n.

He continued not certainly improving till 17th February, when it is stated that the "pain is better than it has been; slept two or three hours in the night. Complains of difficulty of breathing, much worse if he makes the slightest exertion. Pulse 100, of moderate strength; ordered—

R Potassii iodidi, \mathfrak{z} ii.
Aquaë, \mathfrak{z} vi. Solve.

Sig., Two tablespoonfuls three times a day.

Next day, 18th February, the pain is said not to be so bad as it had been; the pulse was 88, and of moderate strength; the cough and dyspnœa still continued. He was ordered to take fifteen minims of chlorodyne in water at bedtime. On 22d February it is reported that he did not cough so much last night, and that the pain no longer passes across the chest, but is confined to one spot, the size of a crown-piece, between the clavicle and nipple; the pulse is 84, and of moderate strength. On 3d March, it is reported that the cough was more troublesome during the previous night, and that he complained of slight soreness across the lower part of the chest on coughing. Ordered to discontinue the iodide of potassium mixture. On 5th March, the patient was ordered full diet instead of steak diet. On 10th March, his cough being very troublesome, he was ordered—

R Sp. chloroformi,
Chlorodynii, $\bar{a}\bar{a}$ \mathfrak{z} iv.
Aquaë, \mathfrak{z} vss. M.

Sig., One tablespoonful when the cough is troublesome.

The patient says the pain is worse in the left side of the chest to-day. He thinks it has not been so well since he left off the iodide of potassium. Ordered to recommence his mixture, taking only one tablespoonful three times a day, so that he now only gets ten grains of the iodide for a dose. He continued much the same, not complaining of the pain till the 21st, when he was ordered to discontinue the iodide of potassium mixture. On 23d March, it is reported that the patient says he cannot see distinctly when reading or writing, as if a mist came before his eyes; he has noticed this since the 19th. On 31st March, he was ordered to apply pounded ice, in a bag of thin gutta-percha, over the pulsating tumour, on the left side of the chest, for one quarter of each hour during the day. On the 16th April the cough was rather worse, and he was ordered to resume the iodide of potassium, in twenty-grain doses three times a day. At this date, the dimness of sight formerly complained of is reported better. On 24th April, the iodide was again discontinued, because of slight watering and weakness of the

eyes. On 28th April, it is reported that the cough recurred with great violence during the preceding night, with great difficulty of breathing, loud snoring noise heard over all the chest posteriorly, with a rattling in his throat; no dulness posteriorly, vocal resonance increased equally on both sides. Ice to be discontinued. Ordered to recommence the iodide of potassium in twenty-grain doses three times a day. On 29th April he was ordered—

R Spt. æth. sulphurici, ℥iii.

Chlorodynii, ℥ii.

Decoct. senegæ, ℥vi. M.

Sig., One tablespoonful when the cough is troublesome.

30th April, the breathing is said not to be so difficult, his cough continues, the expectoration frothy and purulent. On 8th May, it is stated that the area of dulness remains unchanged; the sounds heard over it are, however, much diminished in intensity, and the blowing is scarcely audible. Percussion over the lungs is normal, but loud sonorous râles are everywhere audible, with prolonged expiration, especially on the right side posteriorly. The cough is not so harsh and barking as formerly, but it is now accompanied by a most copious purulent expectoration, especially at night. All his medicines to be stopped except the iodide mixture, and the following draught:—

R Chlorodynii, ℥x.

Spt. æth. chlorici, ℥ss.

Mucilaginis, ℥i.

Aquæ, ℥x. M. ft. haustus nocte sumendus.

On the 22d of May, he was ordered a hot poultice, on account of a soreness in the chest, most felt after coughing. 9th June.—Since last report he has continued much the same. He sometimes complains of pain in the chest, still has cough, with profuse purulent expectoration, and loud sonorous râles, both anteriorly and posteriorly. He still continues to take the sedative draught and the iodide mixture. Upon percussion, the dulness is found to have extended more towards the right side, now reaching to about the middle of the clavicle. On 23d June, it is stated that the patient complains of great pain in the chest, which seems to be increasing, and for which he had poultices frequently applied. He also complained of great weakness, for which he got two ounces of port wine daily. His breathing was however easier, the cough and expectoration greatly diminished. The pulsations over the now greatly enlarged dull area are however increased, and the double blowing murmur is more distinct than formerly. Posteriorly, the blowing murmur can also be distinctly heard about the sixth dorsal vertebra. 26th June.—Complains of pain in the left side being increased. Poultices ordered. 27th June.—Still complains of great pain in his left side. Twenty minims of a solution, containing nine grains of hydrochlorate of morphia to the ounce, were injected subcutaneously over the painful part. He continued to improve

slightly. On 16th July, it is stated that the patient feels very well, has little cough or expectoration; he takes his food well, and has very little pain. On 23d July, it is stated that the patient continues better, his breathing easier, cough and expectoration almost gone, and for the last two or three days he has been getting up and walking about the ward, though still unable for any exertion, or even for much gentle exercise. He continues the iodide of potassium. At this time, Ward II. being shut for the autumn, he was transferred to my care in Ward VII. Shortly after being sent up to me, he walked through the whole ward to the water-closet, which is somewhat draughty, and back again, and was thereupon seized with a return of his cough, copious purulent expectoration, and violent pain in the left shoulder, and over the large pulsating tumour, on the left of which a small projection about an inch square was thrown out, over which there was a red blush. He was strictly confined to bed, a belladonna plaster applied over the tumour, with half a drachm of the iodide of potassium in infusion of chiretta three times a day, also,

R Syrupi scillæ, ℥ij.
 Spt. lav. co.,
 Tinct. opii ammoniatæ, āā ℥iv.
 Syrupi simplicis, ℥i.
 Aq. menth. piperitæ, ℥ij. M.

Sig., One tablespoonful every three hours, and fifteen minims of chlorodyne to be given additionally when required. In a few days he was relieved. The projection subsided, and he seemed going on favourably, but the annual cleaning of the wards then came on, and on the morning of the 13th of August, he was unfortunately permitted to walk down two stairs, each one storey high, to Ward No. I. This, however, he seemed to bear pretty well; he expressed himself as none the worse, but his cough was most certainly not thereby improved. Upon his return upstairs, a week subsequently, I had him carried in a chair, but the exertion, and possibly the somewhat damp air of the newly-washed ward, were too much for him; a violent exacerbation of his cough took place, accompanied by a great increase in the size of the tumour, which was covered by a red blush; there was complete loss of the pulse in the left arm, accompanied by coldness and excruciating pain of the limb; his expectoration was copious and purulent, and occasionally both streaked and stained with blood. The left arm was ordered to be swathed in flannel, to continue his cough mixture, to have also fifteen minims of chlorodyne p.r.n., to have his iodide mixture four times a day, and to have a large belladonna plaster applied over the whole tumour. For many days he took two drachms of chlorodyne daily, besides his cough mixture,—indeed, the orders were to give him a full dose of chlorodyne at once when required, so as at all hazards to keep the cough quiet. He bore this treatment well, his tongue kept clean, and his appetite fair; in eight days the

expectoration began to lessen, and the cough and pain to cease. By the 31st of August they were almost gone, and the expectoration reduced to a trifling amount of mere mucus; the arm was again warm, and feeling like itself; the pulse restored to the wrist, though still very feeble; the tumour somewhat diminished in size, and apparently not pulsating so strongly; he was lying quietly in bed reading, and expressed himself as feeling quite a new man. After this he was kept constantly lying on his back in bed for the next nine months; for the greater part of this he was on a water-bed; he had occasional relapses of his cough, especially during the changeable weather of autumn and early winter, for which a tolerably free use of chlorodyne or other opiate was required; but there were no more threatening symptoms in regard to the aneurism, which continued steadily but slowly to improve. During all the next nine months, he continued to take two drachms of the iodide of potassium daily, with the exception of twice, when it was omitted for a day or two on account of gastric irritation, as evinced by pain and vomiting. At last, towards the end of May, the tumour seemed sufficiently consolidated, and all the other symptoms so moderated, as to warrant the patient's being allowed to get out of bed. Although he looked well and healthy, yet I considered it proper to prepare him for his exertion, by adding one drachm of the iodide of iron to his iodide mixture; this he took from the 18th to the 21st of May, when he was allowed to get up; the iodide of iron continued in combination with infusion of calumba, and the iodide of potash omitted. I find I have omitted to state, that when I first made up my mind to allow Jamieson to rise, finding his pulse rather more rapid than I liked, which I now believe was partly the result of a fearful joy, I put him for several days upon gradually increasing doses of tincture of aconite, along with his iodide mixture; this having been pushed as far as I thought proper, without any decided lowering effect, I then placed him, as I have just stated, upon the iodide of iron. At this time his pulse was 100, much fuller in the right than in the left arm; the skin moist; his cough so slight as to be inappreciable, never heard during visit; his expectoration merely a trifling catarrhal mucus; his voice is still thin, and somewhat feeble, but distinct, and very different from what it was; respiration everywhere natural, and the percussion sound posteriorly normal. Anteriorly, the apex beat is feebly felt between the sixth and seventh ribs, a little outside the nipple line, the heart being probably elongated, and certainly displaced, the lung covering it. Just inside of the left edge of the sternum dulness extends from the liver quite up to the lower border of the first rib. In the nipple line, dulness extends transversely to a distance of two inches from the edge of the sternum. Just at the inner edge of the left clavicle, there is a small patch of clear sound; with this exception, dulness extends along both

clavicles, from about one inch and a half, to the right of the right edge of the sternum, to about four inches to the left of its left edge. The dulness on the right side is bounded by a semicircular line joining the sternum at the upper border of the second rib. On the left side the dulness is also bounded by a semicircular line, the centre of which is about the middle of the clavicle, and in this position it does not descend beneath the middle of the third rib. The sternal ends of both clavicles are dislocated, the right to the extent of half an inch, the left to about a quarter of an inch, on the upper part of the sternum; there is considerable puffiness, and over it, and over the dull portion to its left, the veins are enlarged and tortuous. A finger placed in the tracheal fossa feels a solid mass behind the sternum. Over the apex beat, the first sound of the heart is audible, somewhat obscured by a rough double bruit, heard loudest at the middle of the sternum, just at the junction of the fourth rib; this is propagated upwards loudly and roughly into both carotids, less so into the right subclavian, while over the left subclavian, in the dull portion already mapped out, we have a solid tumour, pulsating, but not very forcibly, and only with a movement of elevation, and none of dilatation, over which no bruit whatever is heard, merely a dull thud. The patient has now no difficulty in breathing or swallowing; he walks up and down stairs, and about the airing ground; he says he has now no cough. The aneurism seems still going on consolidating. I have again placed him for precaution's sake upon the iodide of potassium, but he is now ready, and I believe fit, to be discharged. I shall, however, protest against his testing his powers of procuring a livelihood for himself by a return to a laborious occupation. I sent this patient recently down stairs to Dr Bennett, who exhibited him to his class, and, I am told, expressed himself satisfied with the reality of the improvement which had taken place.

CASE VII.—*Aneurism of the Aorta*.—William Allison, aged 22, a tailor from Glasgow, a native of Dumfries, was admitted into Ward VII. on the 3d of August 1868, labouring under severe cough, with copious purulent expectoration, having also a pulsating tumour in the left breast. He is a thin, worn-looking man, and states that he has been nine months ill, having already sought relief in the Glasgow Infirmary for a severe cough and pains in the left side, especially in its lower part. There he was under Dr Steven's care, who discovered the aneurism, the existence of which was unknown to the patient. No special treatment was used for the aneurism; his strength was supported, and cough soothed. He remained in the Glasgow Infirmary from the 7th March till the 20th of June, when he was discharged, improved as regards his cough, to the Convalescent Hospital at Bothwell. From thence he went to Dumfries, where he became worse, was advised to come to Edinburgh, and was sent to me by Dr Joseph Bell, whom he had

consulted. On admission, he was found to be exhausted by a constant harassing cough and copious purulent expectoration. He had also suffered much lately from severe pains in the left side of the chest, extending over the shoulder and down the left arm to the elbow, also up the left side of the neck to a limited extent. Pulse 110, rapid and feeble. Apex beat between fifth and sixth ribs, and slightly to the left of the nipple. The cardiac dulness does not, however, seem increased. The heart seems rather pushed to the left, and somewhat backwards. The heart's sounds are normal, but fainter than natural over the apex; the second somewhat accentuated at the base. Between the second and third ribs on the left side there is a conical elevation, rising about half an inch above the level of the ribs, pulsating fluidly, with thin walls and a distensible action. This pulsating tumour measures transversely about an inch and a half, while another inch and a half of dulness extends to the edge of the sternum; it passes upwards to the lower border of the first rib, and below it is lost in the cardiac dulness. Over this region the pulsatile wave passes from right to left, and a tolerably loud and well-marked bruit is to be heard, terminated by the accentuated thud of the closure of the aortic valves. This is most distinct close to the sternum; more to the left this thud appears to be replaced by a second blowing sound. The right lung is normal both as to percussion and auscultation; the left lung is dull anteriorly, and over its lower half posteriorly, the respiration being obscured apparently by thickening of the pleura (the remains of an old pleurisy which he had in Glasgow), sonorous and creaking râles being to be heard there, as also over the apex. Right pulse perhaps a shade fuller than the left. Pupils both natural. To have a belladonna plaster applied over the tumour, and

℞ Morphiæ hydrochloratis, gr. i.

Acidi hydrochlorici dil., ℥v.

Acidi hydrocyanici, dil., ℥ss.

Syrupi scillæ,

Aquæ fontanæ, āā ʒi. M.

Sig., One teaspoonful occasionally.

℞ Potassii iodidi, ʒvi.

Infusi chiratæ, ʒvi. Solve.

Sig., One tablespoonful three times a day.

The pain ceased in a few days. By 1st September the cough was almost gone, the sputa nummular but scanty, his breathing easy, and he felt altogether more comfortable. His pulsating tumour scarcely projected at all, and felt somewhat firmer in its walls; his pulse 96. By 30th September the cough and expectoration had both entirely ceased, and on 30th October he left, thinking himself quite cured. The pulsating tumour was lessened, but its walls were not thickened, and the bruit as loud as ever. About a month afterwards, I had a note from him requesting readmission, which I granted, upon condition that he should agree to

confine himself to bed for six months at least, and upon 10th November he was readmitted at his own urgent request. His cough was now very harassing, and he expectorated about $\frac{3}{4}$ xv. of purulent matter during the night alone. He was placed on his former remedies, but on the 23d of November he said that he vomited the iodide. He was ordered to continue the iodide mixture as formerly, but to have ten minims of chlorodyne p. r. n. instead of his cough mixture. 24th November.—It is reported, “no more sickness.” On 28th November he was so exhausted with his purulent expectoration that I was forced to give him four ounces of brandy in the day. At this date his right lung was found to be normal. On the left side anteriorly there is complete dulness everywhere, except at two points—*first*, just below the left clavicle, and for about an inch from the sternum; there the dulness is not quite complete: *second*, there is a patch of fully resonant lung, bounded above by the clavicle; anteriorly, by a perpendicular line from the centre of the clavicle to the upper border of the third rib; posteriorly, by the anterior fold of the axilla, down to where this joins the fifth rib; and inferiorly by a semicircular line joining the two inferior points. The apex beat is between the fifth and sixth ribs, two inches to the left of the nipple, and one inch and a half below it. The heart sounds distant, but normal, at least free from bruit at the apex. The base is so covered up by a large pulsating tumour that the sounds proper to it cannot be distinguished. This tumour pulsates visibly and fluidly between the second and third ribs, commencing immediately within the line bounding the resonant space just mentioned, and extending to the sternum; the pulsatile and distensible wave passes from right to left, and seems to follow the heart’s impulse very closely. Over the whole dull portion of the chest anteriorly—chiefly, however, heard where the pulsatile tumour exists, and specially well marked close to the left edge of the sternum—there is a loud bruit, seeming to follow the loud accentuated second sound, and there is also a thrill most evident at the close of the pulsatory wave. Laterally the percussion sound is somewhat dull. Posteriorly there is no dulness above the centre of the scapula; beneath that the dulness is well marked. Anteriorly, over the sonorous patches, there are moist rattles and creaking sounds. Posteriorly, as low down as the middle of the scapula, the respiration is normal, with a few rattles; no vocal resonance. Beneath that the vesicular respiration is faint, almost inaudible, and masked on deep inspiration by coarse crepitation. From the fourth dorsal vertebra, as low down as the seventh, and for four inches to the left of the spine, the pulsation is distinctly audible, but no bruit.

By 24th December his cough and expectoration were quite gone. He was looking well, gaining flesh, and the pulsations were much quieter. By the 26th of March he was so much recovered, and the pulsation so quiet, the walls feeling so solid and dense, that I ventured to express a hope that I would soon be able to let him out of

bed. Unfortunately, that very afternoon, he rose without leave, and left the hospital. Of course, upon his return, he was very properly dismissed for his misconduct by the house-physician, and I have heard nothing of him since.

The next case is certainly not one of aneurism, but it seems worth relating as a very good illustration of the relief to the substernal pain and many of the other troublesome symptoms even in cases where we have to do with nothing more definite than the aneurismal diathesis.

CASE VIII.—Robert Sawyer, æt. 32, came from West Calder to Ward VII. on the 8th of August 1868, complaining of violent palpitation, severe pain over the cardiac region, difficulty of breathing on walking, accompanied by a feeling of suffocation as if the throat were grasped. On going upstairs he has to stop repeatedly to recover his breath. The heart's apex is found to beat between the fifth and sixth ribs, a little to the right of the nipple line. The cardiac dulness is normal. The systolic sound in the mitral area seems a little more intensified than usual; there is no bruit. The diastolic sound over the aortic area is greatly intensified, and has a loud booming character, and is accompanied and partly replaced by a diastolic bruit, heard loudest over the sternum from the fourth rib down to the ensiform cartilage. There is dulness and some venous vascularity over the upper part of the sternum, and a rough bruit in the left carotid. Palpitation first troubled him, he says, after an attack of rheumatic fever, sixteen years ago. There is no history of any cardiac affection; he has, however, had repeated attacks of rheumatic fever during the eleven years immediately succeeding his first attack, but none during the last five years. On admission, he was ordered half an ounce of infusion of digitalis thrice a day; this he took for five days without any relief. He was then ordered half a drachm of the iodide of potash in infusion of chiretta, three times a day. He very soon lost the substernal pain and other uneasy feelings, and was discharged, at his own request, on 10th September. I ascertained that he had run up and down the Infirmary stairs to test his improvement, and he expressed himself satisfied when he requested his discharge.

CASE IX.—*Aneurism of the Innominate*.—Henry M'Neminy, æt. 37, a labourer, a native of Ireland, but for twenty-six years an inhabitant of Scotland. Admitted into Ward VII. on 31st August 1868. He states that he was in good health up to last winter, when he caught a severe cold; about three months ago he first perceived and was incommoded by a beating in the throat, and about three weeks ago severe pains commenced to shoot from the place where the beating is felt over the right shoulder down to the right arm, and especially up the right side of the neck and back of

the head. For these pains he consulted Dr Joseph Bell, by whom he was sent to me. On the right of the tracheal fossa there is a tolerably firm, but distinctly expanding, pulsatile tumour felt rising out of the chest, about an inch above the upper edge of the sternum, crossing fully one-half of the tracheal fossa, being nearly two inches in diameter. From the upper edge of the sternum dulness extends downwards for about an inch; over this dull spot and tumour a dull thud is heard, no bruit; this thud is propagated up both carotids, while in both subclavians merely the normal arterial whiz is to be heard. The cardiac dulness and sounds are natural. The right pulse seems a little smaller than the left, and the right pupil is slightly contracted. Other systems and functions natural. Pulse 120 on admission. He was ordered at once half a drachm of the iodide of potassium in infusion of chiretta, three times a day. In three days his pulse had fallen to 88, and he continued steadily to improve up to 25th November, when he was dismissed, at his own request; the tumour quite firm and solid, no longer dilating, but not perceptibly diminished in size. He was perfectly free from pain and every aneurismal discomfort, and expressed his determination not to go to work for a few days. Dr M'Bain writes me that he is now working as a scavenger without inconvenience; that there is still excessive pulsation, but that the tumour has almost disappeared.

CASE X.—*Aneurism of Aorta*.—Samuel Moore, æt. 47, an old soldier, now a stevedore. He was wounded in the Crimea, and was subsequently for nine years in India, where he enjoyed the best of health, having during all that time only once had a week's illness. His habits are, however, confessedly intemperate. He was admitted into Ward VII. on the 14th September 1868, and stated that he had caught cold from getting wet when working very hard at the quay of Glasgow, about seven weeks previously. A violent cough then came on, which had lasted four weeks, when, being seized with a violent fit of coughing while wheeling a barrow-load of cheese from the ship's side to the quay, he felt a sudden pain shoot through his chest and down his left arm, which immediately began to swell. On admission, his right pupil was found to be slightly dilated, and the right radial pulse a shade weaker than the left. The left arm was swollen, measuring round the middle of the biceps $12\frac{1}{2}$ inches, the right one only measuring 11 inches. The upper part of the left forearm measured also $12\frac{1}{2}$ inches, the right one only $10\frac{1}{4}$ inches. The veins on the anterior part of the left chest, shoulder, and arm were tortuous and much enlarged. The apex beat was between the fifth and sixth ribs, directly beneath the nipple. The heart's impulse and dulness were normal, the dulness however extending to the upper part of the sternum, and entirely across it. The systolic sound in the mitral area was rather shorter and apparently not so full as usual. The

diastolic sound in the aortic area was somewhat accentuated. A rough systolic bruit, closed by the accentuated diastolic sound, is to be heard in both carotids, but loudest and roughest in the right one. Pulsation is to be felt in the supra-sternal notch. Percussion over the lungs was natural, but loud sonorous râles were to be heard all over them. He had a violent cough and copious frothy expectoration. He had great pain shooting down the left arm, round the left shoulder, and up into the neck. Ordered squill and opium mixture, and half a drachm of iodide of potassium, in infusion of chiretta, three times a day. In this case the diagnosis of aneurism was at first somewhat obscure; the patient, however, improved under the treatment, the swelling of the arm, the enlargement of the veins, the cough, and the expectoration all gradually lessening, and the rough bruit in the right carotid becoming apparently softer. I had, however, ceased to look for any more definite signs of an aneurism, when one day, in the beginning of November, happening to place my hand upon his chest, I felt a well-marked pulsating tumour just to the right of the upper part of the sternum. Being hurried at the time, no careful examination was made for a couple of days, but by that time, however, the very evident and well-marked pulsating tumour, which was readily felt by myself and others, had ceased to be so easily perceived. There was, however, a dull patch between the first and second ribs, extending for about an inch and a half to the right of the sternum, and reaching from the upper edge of the second to the middle of the first rib. Over this dull patch pulsation was only very obscurely to be felt. The accentuation of the aortic sound is very well marked over the dull patch just referred to, preceded by a loud whiz, extending up into the right carotid and somewhat into the subclavian, but not well marked there even now. The aneurism seemed to be somewhat movable; because when pulsation was so evident to the right of the sternum, it was not so perceptible in the tracheal fossa, and *vice versa*. The swelling of the arm had quite disappeared, and all his symptoms were so much alleviated that he considered himself quite well. Unfortunately, he had to be dismissed for misconduct on the 28th of November. He has been since that time leading a life of alternate dissipation and medical treatment, not under my care, however; and just the other day, 12th June, he presented himself to me and besought me for readmission. He has now a large pulsating tumour on the right side, about which there can be no mistake. I neglected to mention, that this patient had tolerably smart symptoms of iodism, pain in the head and coryza, when he first commenced to take the iodide, but a steady persistence in the half-drachm doses speedily established tolerance.

CASE XI.—*Aneurism of Aorta*.—William M'Alpine, a hawker, aged 41, admitted into Ward VII. on 1st June 1868. This is the

case referred to by Dr Warburton Begbie, at p. 1071, *Ed. Medical Journal* for June 1863. For about six years, therefore, he has been labouring under symptoms of aneurism, while during that time his symptoms have been relieved, and kept more or less in abeyance by the irregular use of the iodide of potassium, taken chiefly at his own hand. On admission, the percussion on the right side was found to be normal. On the left side, a dull patch extended from near the right side of the sternum to a distance of four inches along the upper border of the third rib, close to the left side of the sternum. This dulness extends upwards to the lower border of the first rib, while beneath it is lost in the cardiac dulness; towards the left, it rounds off semicircularly. The ribs over this patch seem to protrude. The cardiac dulness is normal, but no apex beat is to be felt. The cardiac sounds over the normal position of the apex are heard more distant than usual, the second sound is heard distinctly accentuated in its normal position. Over the dull area already described, the heart sounds are heard louder, and more accentuated than normally; no bruit is to be heard, but a distinct pulsatile movement is communicated to the ear, though it is not so perceptible by the hand. The right radial pulse is fuller and stronger than the left. Pupils both alike. Posteriorly, on the left side, a distinct pulsatile thrill is communicated to the ear, but none is to be felt by the hand, nor does percussion bring out any appreciable dulness. The annoying sensation of pulsation is, however, only too perceptible to the patient himself, who says it prevents him leaning back upon a chair. A fine fringe of vascularity runs along the lower border of the thorax from one side to the other, and there is considerable œdema of the lower extremities and abdomen, which has existed for some time, and which he has been in the habit of relieving by purgatives. No appreciable ascites. Urine normal. To have half a drachm of the iodide of potash in infusion of chiretta, three times a day. To be strictly confined to the recumbent posture, and ordered to restrict himself both in food and drink. On the 29th of August, he expressed himself as much relieved, the distressing sensation of pulsation being no longer perceived by him. The œdema, however, troubles him much, and for this he had various purgatives which ultimately relieved him. He was dismissed on 16th September, at his own request. He again returned on 26th September, for a cough, and remained in hospital till 23^d October, taking the iodide mixture as formerly. He was then dismissed at his own request, the pulsations now no longer perceptible to himself, and only very faintly perceptible on auscultation; the pulsation anteriorly over the tumour was also much less perceptible. Again he returned about the end of February 1869, not now complaining of his aneurism, which remained *in statu quo*, but of intense œdema of the lower limbs and body, with some ascites, and also oppression of breathing. The upper limbs and face were comparatively free from swelling. There was no albuminuria, but purgatives and diuretics alike failed to

give relief, and he was evidently sinking from the dropsy, and apparently had not many days to live, when he died suddenly, suffocated by hæmorrhage, which escaped from his mouth. The autopsy took place on the 7th of March. The body was œdematous and extremely congested. The face was livid. Upon opening the thorax the sac of the aneurism was found firmly adherent to the left margin of the sternum, and to the third left costal cartilage. Opposite this point externally there was a slight elevation. The right pleura contained a large amount of reddish serum. Between the two layers there were several patches of dense old adhesions. The lungs were compressed, particularly the lower lobes. The left lung was densely adherent to the walls of the thorax and to the surface of the aneurism. Part of the lower lobe of the right lung was also connected to the surface of the aneurism. The pericardium was greatly thickened. The heart was small; its cavities not dilated; the valves were competent. There was no marked pressure on the trachea, bronchi, or œsophagus. The branches of the arch of the aorta were atheromatous, but not compressed. Neither the pulmonary arteries nor any of the large veins were compressed. The coronary arteries were freely open, the aortic valves competent. The whole of the ascending part of the arch of the aorta had its inner coat atheromatous and calcareous. The middle coat was greatly thinned. The mouth of the aneurism was in the anterior wall of the aorta, about one inch above the valves. It measured three inches vertically, and nearly two inches across. The aneurism projected from its point of origin forwards and towards the left side. Transfixed at its greatest breadth it measured four inches and a half, and from above downwards five inches. Its anterior part contained firmly adherent fawn-coloured clots; its posterior part contained a large, softer, and more deeply coloured clot. On the same level as the aneurism just described there sprang another from the right side of the aorta, with an orifice about the size of a shilling, the whole tumour being about the size of a walnut. This second aneurism pressed upon the right auricle, the muscular fibres of which were much hypertrophied. The chief veins were free. There was slight flattening of the left vagus nerve on the surface of the aneurism. The liver was slightly cirrhotic, its surface studded with numerous miliary granules. The kidneys were natural. This small aneurism, which, doubtless, by its pressure on the right auricle, was the cause of the dropsy, and which, being continually churned by the greatly hypertrophied right auricle, could never be kept sufficiently at rest to induce the formation of a clot in it, was ultimately the cause of death, rupturing into the lower lobe of the right lung. The parts were exhibited at the meeting of the Medico-Chirurgical Society on 7th April, as an apt illustration not only of the mode of cure of an aneurism, but also of one of those conditions—and that not a common one—which too often render our best-devised plans of cure abortive.

ARTICLE VIII.—*Extensive Injury to the Heart in a Dog by a Pistol-ball: Death not immediate.* By W. MUNRO, M.B., C.M., District Medical Officer, St Kitts, W.I. With Note by Professor MACLAGAN.

On the 29th April, I shot a dog (one of the curs which are everywhere such a nuisance in those islands). It ran (as I measured afterwards) *forty-two* paces from the spot on which it was standing when shot, howling all the way, and then fell dead.

On post-mortem examination, I found a large quantity of blood in the mediastinum. The lungs were uninjured. The ball had cut away a large portion of the left auricle, then destroyed the mitral valve, passed through the septum ventriculorum, destroyed also the tricuspid valve, and passed out through the wall of the right ventricle.

I have thought this occurrence might be worthy of mention, as bearing on the medico-legal question as to how long it is possible for an individual to live after receiving a wound in the heart. Although cases are on record in which death did not take place immediately, yet they are mostly cases of stabs, in which the contractions of the ventricle prevented great effusion of blood, and are mostly injuries simply of the walls of the organ. Taylor gives a case of a wound by a bullet, but accounts for death not taking place immediately, by the direction of the wound permitting it to be closed at every systole, thus not allowing of much effusion. But as seen by the short report given above, there was great effusion of blood, and the two chief valves were at the same time destroyed, so that it may be considered worthy of notice that the dog was able to go such a distance, and also that it should have been able to *howl* for such a time.

The bullet was a conical one, three-eighths of an inch in diameter, fired at a distance of about three yards. It passed quite through the body.

Note by Professor MacLagan.—The above case, which was sent to me by Dr Munro, deserves being placed on record, as illustrating the extensive injuries which the heart may sustain without causing death on the spot. It may be well, in connexion with it, to recall the following well-known case, communicated by Dr Christison to Dr Watson, from whose book on Homicide I transcribe it:—

“A sailor was found dead in a street in Greenock; and on examination, it was found that he had been shot in the breast, and that the auricles and a portion of the aorta next the heart had been torn to pieces by slugs and nails. A surgeon would certainly at first sight presume that this man died on the spot instantaneously; and so thought the inspecting surgeons. But this was too important an opinion not to be thoroughly sifted; for the prisoner, a brothel-

keeper, swore that while a mob was attempting to break into his house he fired through the door, and shot the sailor, who was an active man among them. Now this defence was incompatible with the opinion of the surgeons, as the door was in a *close* eighteen feet from the street where the body was found. The prisoner was proved to speak the truth, partly by direct testimony, but, still better, by a stream of blood being found between the door and the spot where the body lay; which stream, from the direction of the declivity, could not have flowed from the body towards the door. The prisoner was acquitted."

Part Second.

REVIEWS.

De la Saignée, Effets Physiologiques et Indications Therapeutiques.
Par le Dr F. BRICHETEAU. Paris: Delahaye: 1868. 8vo,
pp. 44.

On the Physiological Effects and Therapeutical Indications of Blood-letting. By Dr F. BRICHETEAU.

AT this moment, when the lancets of most physicians lie neglected and forgotten, a publication such as the present might be considered singularly inopportune. All thoughtful medical men who reflect upon the subject will, however, rejoice at any philosophic attempt to place the much-disputed subject of the treatment of disease by bloodletting upon a sound basis. A mode of treatment which may be so fatal, must of necessity influence powerfully all the vital relations of the frame; and it still, we think, remains to be shown whether under certain conditions a remedy so capable of modifying all the normal relations of our organs may not be also usefully employed in modifying those abnormal relations which we term disease. We grant that to employ bloodletting as our forefathers did, in similar cases and for similar reasons, would indeed be to bring back the days of medical chaos. Amongst a savage or ignorant people, a high professional reputation is sure to be gained by a display of power, even though that power be fraught with danger in its exercise; like that Afghan physician whose fame was based on the use of cyanide of potassium, and who demanded of a traveller (Ferrier) what devil was in that salt, for of a hundred patients to whom he had administered it only one had survived. So in the early days of medicine, when it was of so much importance to exhibit power in action in the eyes of their rude and vigor-

ous patients, it is no wonder that phlebotomy was a favourite remedy with practitioners of medicine; and when we consider the little trouble it gave them—for it was kill or cure—the luck that occasionally attended them, and the handsome way in which their services were rewarded, we really do not wonder at their fondness for its practice. What physician or surgeon would nowadays be bold enough to bleed from both arms a patient just fallen from a lofty roof, as Podalirius did Syrna, the daughter of Damæthus, king of Caria—the first recorded instance of venesection, and both a very bold and a very lucky instance too—and, even if he were equally fortunate in not killing his patient, is it likely that he would receive a tithe of his reward,—a blooming wife with a province for a dowry? No wonder that phlebotomy became fashionable. And considering that Chrysippus of Cnidus, Erasistratus, and those who with them followed the Pythagorean philosophy and abstained from bloodletting, had no such deeds of so-called power to show, and were not likely to receive such handsome rewards for the unobtrusive but no less real exercise of their skill, we think them entitled to the very highest praise, as men who, even in those early and so-called barbarous ages, sought only truth and the good of their fellow-men; and we feel it a high compliment to our common profession, that even in those days these men had so large and so brilliant a following. Not that we mean to assert that the phlebotomists of those days were all self-seekers, or that all the Pythagoreans were the reverse, but only that, as the natural state of matters in those days tended to depress the scale of self in favour of phlebotomy, and as the natural tendency of mankind is towards active treatment, especially when productive of fame or reward to themselves,¹ so the Pythagoreans deserve great credit for their philanthropic and unselfish conduct as well as for the calm and philosophic way in which they argued out the matter, and placed it on a basis which, *mutatis mutandis*, differs very little from that which it now occupies. But just because our present reasons for not bleeding differ so little from those of Erasistratus, and because we know that, for more than two thousand years, these reasons have proved just as insufficient and incompetent to banish phlebotomy from medical practice as the transmitted opinions of Galen have been in maintaining it in that pre-eminent position when bloodletting was deemed the remedy for every ill, and physicians counted their triumphs by their bleedings; and especially because we feel that the present discarding of the lancet is more of a fashion than a faith, while there are not wanting among us men who would willingly restore it to its former position as a haphazard system of practice; nay, who have already endeavoured to recommend phlebotomy to their professional brethren, not for any certain physiological

¹ “*Illud etiam insitum est homini, ut cum adhuc non constet, an aliquid faciendum, et administrandum sit, necne; propensior sit ad faciendum, quam ad quiescendum.*”—Portius, *De Miss. Sang.*, p. 4.

or pathological reasons, but for the oldest and the worst of all, the success which has apparently followed its use, as if *quia post, ergo propter*, was any more true nowadays than in the days of Podalirius; or—and this is the most curious fallacy of all—of any more value in one disease than in another,—a most forcible argument in uræmia, a most fallacious one in pneumonia. For these reasons, therefore, we rejoice at the appearance of a work the tendency of which is to place this much-disputed question upon a sound and philosophic basis; and we also think that no time could be more opportune than the present, when the irrational views, which to sanguine minds seemed disposed of for ever, are already beginning to crop up again like weeds not killed but merely scotched; and we think it both interesting and appropriate that the author of such a work should be a native of that country which can boast both of Bouillaud, the most consistent and persistent venesectionist of the present day, and of Borden, one of the most philosophic of physicians, and most consistent avoiders of phlebotomy of last century.

Brichetau states as the object of his inquiry two queries; the first, What foundation is there for the violent attacks which have been made upon phlebotomy as a part of medical practice? and, second, Has not the reaction against bleeding been excessive? In answering these queries, Brichetau first reviews cursorily the history of bloodletting, dividing it into three imaginary periods:—

1st, A period of vicissitude;

2d, A period of prevalence;

3d, A period of decadence—that which now exists.

This division of the subject is, however, we conceive, quite unwarranted by anything to be found in the history of medicine. From the scattered and imperfect nature of the material at our command, and the mode it has been worked by the expositors of our history, who have been mainly phlebotomists, the connecting links in the line of hæmatophobists may at times be difficult to trace; but the existing facts warrant us in affirming, that since the days of Pythagoras, the earliest medical philosopher, who flourished about the first half of the fifth century before Christ, when medicine first became a science, down to the present time, vicissitude in regard to phlebotomy has indeed existed; but there never has been a period in which, however prevalent, it has held undisputed sway in the realms of medical science. Just as now, even in the period of its decadence, there are still phlebotomists extant, and many more who would be if they dared. Hippocrates himself was no indiscriminate bleeder, Asclepiades no determined abstainer from bleeding. From the works of the former many cases of pleurisy and other inflammatory diseases may be extracted in which bleeding was never thought of; while the latter, though he objected to bleed “pleuritici” at Athens or Rome, yet had no difficulty about bleeding them at Paros or the Hellespont, and was prodigal enough of blood in other diseases even at Rome,—a matter about which

Soranus twits him with sufficient virulence; while indeed it was Asclepiades and not Van Helmont who was Todd's earliest precursor in the theory of the antiphlogistic powers of alcohol. We might, however, forgive our author for his want of clearness and distinctness in regard to the ancient history of this subject, but it is impossible to forgive a countryman of Bordeu and of Molière for the manner in which he has slurred over the history of last century, and included within the period of "prevalence" a time when phlebotomy both waxed and waned, and during part of which at least whole cities were divided in partisanship between the physician who counted his triumphs by his bleedings, and his opponent who regarded bleeding as a source of evil, and sought to banish it from medicine.

Brichetau says that the fate of phlebotomy was decided from the moment that it was shown that repeated venesections diminished the amount of corpuscles, and of all the other most useful elements of its composition; but the results of the analysis of Andral and Gavarret, to whom he chiefly refers, were long before the public ere this came to be regarded as one of their teachings; nowadays some of us may see it to be so, but no such conclusion is generally drawn from them even now, or was ever thought of when first they were published. Neither had solidism any necessary tendency this way. Where was there a greater solidist than Abercrombie? or where a greater stickler for the efficacy of bloodletting, or a more ardent practitioner of the art? It is true, however, that Louis and his followers (the statisticians) have had a good deal to do with the present abstinence from bloodletting—not, however, as the history of medical statistics amply proves, from anything in them specially favourable for eliciting the truth in regard to such an inquiry, but mainly because they had the good or ill fortune to be pitted against statistics of a very different order now brought into the field; and the common sense of mankind was not so blinded as not to perceive, that if the decillionth of a grain of phosphorus was less injurious than the abstraction of twenty odd ounces of blood, it was at least not superior to doing nothing at all in that way. From the advent of homœopathy venesection was brought into contrast with a system of expectancy from which we learned definitely the lesson too often forgotten in bygone ages, that "*cuncta sublunaria quæ non sunt morti, sunt saltem termino subjecta.*"—(Van Helmont.)

Brichetau next passes in review the various physiological effects produced by bloodletting, in virtue, first, of its mechanical action of depletion, by which it diminishes the vital fluid, and thus weakens and enfeebles every manifestation of life; and, second, of its somewhat more complicated but still primary mechanical action of denutrition, the result of the diminution of certain ingredients of the blood, mainly the globules, and the consequent interference with the vital chemistry of the organism—effects which it is impossible to separate practically the one from the other. He points out what was

long ago shown to be the case by Haller, that the acceleration of the capillary circulation, the constant result of bleeding, restores a free circulation to capillaries in the early stage of inflammation termed stasis, but that this effect can only rarely be employed with benefit, even when directly brought to bear in local and superficial congestions; while, in the congestions of internal organs, the only real effect produced is one of great depletion; an effect which may relieve certain symptoms, as dyspnoea, but which does so at a certain risk to the patient, who has always to pay—and often dearly—for the relief obtained; which, after all, is only temporary. In this review, Brichetau states concisely, but succinctly, the various physiological effects produced by bloodletting upon the different organs and functions of the body, and follows this up by an equally concise and succinct detail of the results which are thus capable of being produced upon diseases of different types. It is impossible to speak too highly of the careful and unprejudiced manner in which this is done; perhaps we might wish to modify some of the opinions expressed, but the points in regard to which we might desire to do so are comparatively few and unimportant; and we feel that even our own views are more likely to be advanced by thoroughly impregnating the profession with those contained in Brichetau's well-reasoned pamphlet than by cavilling upon some of the minor points contained in it. A little too much importance may be assigned to merely mechanical causes, but this is counterbalanced by the skilful manner in which he demolishes various fallacies which have too long prevailed in relation to phlebotomy; and we therefore cordially recommend our readers to make themselves masters of the facts and reasonings contained in this pamphlet; and we feel that we cannot better sum up the conclusions arrived at by Brichetau than by quoting the words with which he himself takes leave of his reader:—"If we consider," he says, "the ideas which have been put forth at different periods in regard to the mechanism and the means by which bloodletting was supposed to cure diseases, our review is sufficiently discouraging. Hippocrates sought to evacuate the morbid matters, to diminish congestions, to recall or turn aside the blood from parts into which it ought not to intrude. The Methodics employed bleeding as the best relaxant wherever constriction was held to predominate. Arataeus bled boldly to facilitate the expulsion of calculi in nephritis. Galen, at one time, sought by it to diminish plethora, at another to divert the blood or bring about a revulsion, or even to evacuate a portion of the morbid humour. The Mechanical physicians employed bloodletting to disembarass the bloodvessels gorged with thick and viscous blood. The Humoralists employed it to relieve the patient from his morbid humours. The school of Broussais hoped by it to relieve the irritated organs of the phlegmasic (inflammatory) element. All these diverse theories have each had their day, and we are nowadays astonished to find that they could ever gain even one moment's credence.

"But it may be objected, that the theory upon which we have based the indications for bloodletting is likely to be just as transitory as its predecessors. To this we have our answer ready. All those ancient theories were only based upon hypotheses resting on more or less erroneous ideas, but modern science rests upon two bases which can defy criticism: analysis and experiment. There is certainly still much to be done. The composition of the blood is not fully known; the mechanism of the circulation is not yet clearly made out; nevertheless, we have certain positive facts to go upon. Clinical medicine, which at various times has anticipated the results of experiment, finds in modern researches a confirmation of that prudent treatment it has adopted, and we believe that bleeding, not systematically excluded from practice, but reserved for certain exceptional cases, will never again recover that omnipotent position which it formerly enjoyed.

"This is how we think the question of bleeding ought to be regarded. The blood, whose composition has only been studied during recent years and since the labours of French hæmatologists, and which, we repeat, is even yet but very imperfectly known, is the chief element of our organism. The blood is liquid flesh, said Bordeu. The blood lives, says Virchow. We cannot, therefore, abstract with impunity a certain quantity of blood from a healthy man, and still less from a sick one. Formerly, disease was looked upon as a new entity added to the organism, and upsetting all its laws. Nowadays we know it to be a mere disturbance, and that the organism is subject to the same laws whether it be well or ill. If bleeding be capable of producing certain effects—and we think we have sufficiently proved this—it will produce these effects in disease as well as in health. The physician ought to know that, in certain conditions, the smallest abstraction of blood may produce destructive results, and he ought not to waste the vital fluid as a matter of pure precaution, or as a primary and merely routine step in the treatment of every disease, as was formerly the case. This operation ought to be deliberately weighed, because the indications for it must always comprise two things—the local and the general condition—and the former must be always subordinated to the latter. If bleeding be, as we love to term it, a heroic remedy, we must remember that it may be also a dangerous one; because it may debilitate the patient and disturb the free and natural evolution of the malady. In certain cases, a bleeding made *à propos* acts marvellously; but its influence is transitory—it is not lasting—and we must not have recourse to it too often. Bloodletting, far from being banished from medicine, ought to be regarded as one of its most efficacious resources; but one which, surrounded by dangers, must be employed with precaution. As a rule of practice, it must never be practised lightly, nor without the most serious consideration."

In these sentiments we cordially concur. In this most important

matter each one must act for himself, and must weigh each case by itself; not regarding it merely as one of a group for which this remedy has been proposed and may legitimately be tried or not, but as presenting, in itself, certain symptoms which physiology teaches us may be relieved by bleeding, and as further exhibiting no contra-indications in its present or prospective pathological condition. Bleeding can never be regarded as a remedy for a disease, though it may occasionally be legitimately employed to relieve a symptom upon which, now and then, the whole of what we call the disease will be found to depend. Regulated in this manner, blood-letting in skilful hands is capable of affording relief not otherwise attainable; employed in any other manner, or for any other reasons, it relegates us to the haphazard practice of Podalirius, and our very successes may be made responsible for as many evil results as the inopportune recovery of Syrna, daughter of King Damæthus.

- I. *Fourth Annual Report of the Sanitary Commissioner with the Government of India: 1867. With Appendices containing Returns of Sickness and Mortality among the British and Native Troops, and also among the Prisoners in the Bengal Presidency for that year.* Calcutta: 1868.
- II. *Report on Epidemic Cholera and Yellow Fever in the United States Army during 1867.* Washington: 1868.

THE first of these welcome reports, which is signed by J. M. Cunningham, M.D., officiating Sanitary Commissioner with the Government of India, is principally occupied by an account of the cholera epidemic of 1867. The number of pilgrims who assembled near Hurdwar, at the gorge through which the Ganges descends from the Himalayas into the plains of Hindostan, was unusually large. It was calculated that three millions of human beings were encamped on the banks of the holy river over an area of twenty square miles. Extraordinary sanitary precautions were taken to keep clear this large space of ground, and dispensaries were arranged to treat the sick. As far as sanitary arrangements went, there was a marked improvement on any previous gathering at Hurdwar. Only one case of cholera occurred before the 13th of April, when almost all the pilgrims had left Hurdwar; and no more than nineteen cases in all were recorded; but it is surmised that the epidemic appeared amongst the vast multitude about the middle of April, *after* they began to disperse. At any rate, it followed and kept up with them through a large part of Northern India. It ascended the Himalayas to Mussourie, 7000 feet high, and to Simla, 8000 feet; but, as usual, did not spread much in the hills. It prevailed in Cashmere, where above 6000 people died. From Cashmere it passed to Ladak.

It entered Afghanistan, where more than 8000 people are said to have died. The epidemic did not go southward to the same extent. It is indicated in the map as stopping about the junction of the Ganges and the Jumna at Allahabad, and as descending the five rivers no farther than the junction of the Chenab and the Sutlej in the Punjab. The Agra district almost entirely escaped the epidemic, and it prevailed in Burtpore before any pilgrims had returned from Hurdwar, nor was it again introduced after the return of the 1000 or 1200 followers who accompanied the Maharajah on his pilgrimage. Assuming the correctness of the statistics given—and they cannot all be incorrect—there seems strong ground for maintaining that the disease was spread by the pilgrims. It seems to have prevailed most in the villages which they visited, and to have travelled about the same rate, sparing many of the jails, which were kept under strict quarantine. The evidence is very fully given in the Report, which is thus rendered rather long; but, though some of the details are of little weight, it would be difficult to overrule the whole body of evidence. The number of victims to this epidemic probably amounted to about 117,181, and the evidence afforded by the narrative in favour of the communicability of cholera from one person to another is undoubtedly powerful. In a critique which appeared in this Journal, February 1868, we called attention to Dr Bryden's views upon the spread of cholera epidemics, which allow little room for the transmission of the disease by contagion alone; and it is possible that he might be able to give an explanation of the spread of the epidemic more consistent with the views he has already enunciated. His letter foretelling or suggesting the chance of an outbreak of cholera at Hurdwar, and over Kumaon and Ghurwal in April and May, is given at full length at p. 135 of the Report; but the success of the prediction is evidently treated as a mere coincidence, since the data on which it is founded are viewed as incorrect.

It is noteworthy that cholera is generally absent from the Hurdwar fairs, appearing only in one out of fourteen. In the year 1783 it made its appearance, destroying above 20,000 victims; "but so confined was its influence that it did not reach the village of Jowalapore, only seven miles distant, and ceased immediately on the concourse breaking up, on the last day of the festival."

The sanitary arrangements made to avert the cholera contagion were, if we may rely upon the medical despatches, of a highly energetic character. Everywhere the doctor was in attendance distributing "cholera pills" and detaining suspicious cases. Cordons of police were posted to divert the streams of pilgrims from the larger towns. Quarantine camps were established, in which the pilgrims were detained in some places for forty-eight hours, in others as long as five days; and gratuitous food was to be distributed to those who were unable to pay. Pilgrims were not allowed to enter their homes without passing quarantine, and having their clothes

fumigated ; and great praise is due to Dr Cunningham for the patient skill with which he has elaborated the history of this outbreak of cholera, as well as the philanthropic spirit and untiring humanity which led him to avail himself of the means which his important official position put at his disposal, in order to try to avert so fearful a visitation. If we do not in this paper enter upon the broad question of an inland quarantine for India, it is because we intend to take more space than at present available to consider the subject in all its bearings, with reference to the views of Dr Cunningham and those of his opponents. In the meantime we cordially recommend the Report under review to the study of all interested in the momentous questions raised. His report is a real and valuable contribution to medical science.

It is much to be hoped that European science will yet enable us to do something to prevent cholera, if not to cure it, and that the people of India, who are by no means devoid of intelligence, will soon learn to take these individual precautions against disease, and associate to promote those rules of sanitary police which an over-worked central government cannot easily keep in force.

The cholera epidemic of 1867, though its area was wide, was much less fatal than that of the year before. But while the mortality from cholera in Europe has diminished with every visitation, the proportion of deaths to admissions has on the whole increased in India. "Between the years 1818 and 1853-54, the proportion of cases of cholera among European troops which proved fatal, had risen from 26·7 to 42 per cent. in the Bengal Presidency. In Bombay and Madras the increase of mortality had been even greater, for in the one the ratio of deaths to cases had increased from 18·5 to 45·5, and in the other 27·1 to 62·3." (Here comes a statistical table, which we omit.) "The increase in the fatality of the disease among European troops since 1861 has been even more marked than previously. The results of the past seven years show that, out of every 100 Europeans attacked with cholera, 66·94 on an average died, while the average of the previous six years was only 51·9. If women and children were included, the death-rate would be even higher. Such unsatisfactory results need no comment ; when medicine is so powerless to cope with the disease, sanitary and preventive measures assume a paramount importance."—Report, p. 126.

The American Report contains a collection of facts illustrating the communicability of cholera and yellow fever, and some considerations on the use of quarantine. They will be found of value to those who wish to make inquiries into these important subjects. "It is well known," says the Report, "that cholera prevailed extensively in the army during the year 1866, causing over 1200 deaths among officers and men. Cholera spread over the country during the year 1866, extending as far westward as Forts Leavenworth, Riley, and Gibson ; and in the south-west as far as Texas. In its progress the disease followed the lines of travel rather than

any general westward course, and, in the case of the army, it especially followed the movements of bodies of recruits, which were the most important movements from infected points during the year. The compiler of Circular No. 5 drew hence an argument in favour of quarantine, and the Surgeon-General, in Circular No. 3, instructed medical officers to endeavour, as far as possible, to protect any threatened command by a proper quarantine. The measures thus adopted, in conjunction with the hygienic precautions directed in the same circular, undoubtedly saved many lives in the army, for the total number of deaths from cholera during 1867 was but 230; and it cannot be claimed that the disease in itself was less virulent during 1867, for the proportion of deaths to the total number of cases was 1 death to 2·19 cases, while during 1866 it was 1 to 2·22."

In Part V. we have a few abstracts of meteorological observations which every lover of medical science should welcome, and every meteorologist should peruse, and every pretended meteorologist should profess to have perused. We have a Table showing the monthly and annual rainfall in 32 stations in the Punjab for the year 1867, the highest being Kangra in the Himalayas—71·5 inches; Sealkote is the highest in the plains, being 46 inches; after which comes Umballa, which is 38·3 inches, and not 44·3 inches, as is stated in the Table, through an error of addition or misprint. There is another error in the return of the relative humidity of Rawul Pindee, which is given as 69, the dry bulb being 79·45, and the wet bulb being 64·89. Hence it is evident that the relative humidity must be 42. But to return: the lowest rainfall noted is at Gogaira, or Montgomery, as we are now expected to call it, where the quantity of rain that falls is only 3·8 inches. In Mooltan, too, it is very low, being 6·4. The rainfall in Lower Bengal is very much greater. In Dacca it was 77·87 inches, and in Jessore 81 inches. At Nagpore, in Central India, 58 inches. In many places, as well as in different years, we fail to find the correspondence we might expect between the rainfall and the relative or absolute humidity of the air. Lahore, with a rainfall of 20 inches, has a relative humidity of 43 (saturation being 100), and the mean monthly temperature being 75·5; but Sealkote, with its rainfall of 47·81, has a relative humidity of 46, its mean monthly temperature being 74 degrees. The mean absolute amount of watery vapour suspended in a cubic foot of air ought to be for Lahore 5·1 grains, for Sealkote 5·2 grains. Such a yearly average is of very little value unless we know the extremes into which it is resolved. During the rainy months, the humidity of the atmosphere approaches saturation; and during the drier months, the air contains a small proportion of moisture; and hence we ought to have the monthly humidity as well as the *monthly* rainfall.

What is worse, on several of the tables given, for example, in the observations at Agra and Benares, we have the humidity of atmo-

sphere, not only without the mean temperature, but even without the temperature of the wet and dry bulbs. Such omissions make the observations of comparatively trifling value to the physiologist, because it is clear that the amount of moisture which the air can contain is determined by the temperature. A cubic foot of air saturated with water at 40 degrees contains 2·9 grains of vapour, but at 80 it contains 11 grains. Yet both would be returned as standing at 100 in the relative scale of humidity. We are glad to learn that instruments have been supplied to an additional number of stations, and we hope that the Government will show the value they set upon carefully-conducted meteorological observations. Our fellow-townsmen, Dr Murray Thomson, has issued a Meteorological Report of the North-Western Provinces and Oude for 1867; and we hope that every year it will increase in regularity and exactness.

At the end of the Report are the annual returns of the European and Native armies, and of the jail population of the Bengal Presidency for 1867, compiled by Dr Bryden. The mortality of the Bengal European army in 1866 was 20·11 per thousand, the lowest ratio ever obtained. In 1867 it was 30·93 per thousand. The number invalided was 47·28 per thousand. Of the 1636 men entered as invalided, 546 were discharged, and 1090 were sent for change of climate. The mortality in the infantry at home in 1866 was 7·16. Thus, in 1867 the mortality of our troops in the Bengal Presidency was greater than every station or colony for British troops, save at China, where it was 43·72 per thousand in 1866. In the Windward and Leeward command it was less than the Bengal mortality for 1866, being 29·29. In Bermuda it was 24·01; in Jamaica, 24·74; and in Ceylon it was 21·44. The admissions for venereal affections has been decreasing with the troops at home; in 1866 they amounted to 258; in 1860 they were 369. In India there is a like decrease. In 1859 the admissions were 359 per thousand; in 1867, they had fallen to 166 per thousand. This decrease was owing to Lock Hospitals, and other preventive measures. The deaths among the Bengal native regular army were 16·77 per thousand. Its present strength is about 45,000. The cholera was much less prevalent with the native troops.

(To be continued.)

The Principles of Organic Life. London: Hardwicke: 1868.
Pp. 464.

THE work of an elderly physician, who, for reasons best known to himself, declines to give it the sanction and authority of his name, this book is the production of a dogmatist of a very peculiar type. The brain, the liver, the stomach, and the blood, have all, at various times, been regarded as the seat of Van Helmont's Archæus, but

our author places him in the colon; he regards the fæces accumulated there, and the various gases to which their putrefaction gives rise, as the true, the only conservators of the health and wellbeing of mankind, the sole protection of the organism from the corrosive action of that sea of oxygen which wells within and seethes around every particle of our body. Empty the colon, and, the bulwark swept away, the waves within and the winds without speedily complete the ruin commenced by the too active practitioner. Evidently impressed early in life with the fallacy of those doctrines of the efficacy of purgation so forcibly inculcated by the late Dr James Hamilton, our author seems since that time to have lived mainly to accumulate evidence of their vanity, and to construct a physiological theory of his own, which ignores the advances of science and sets up the colon as his *idolum specus*.

Over-anxiety to ensure what is termed regularity of the bowels is no doubt a great folly, and has been the occasional cause of much evil; but to make conservancy of the fæcal and gaseous contents of the colon the central point of a new system of physiology in the year of grace 1868, is too absurd an anachronism to require any serious refutation.

Marseille Médical (Ancienne Union Médicale de la Provence).

Journal publié par MM. les Docteurs D'ASTROS, etc. Directeur,
A. FABRE. 6me Année. Marseille, 20 Janvier 1869.

WE have received this the first number of a new issue—or rather, as the editor calls it, a transformation—of the Medical Journal of Marseilles. In size and shape it is almost exactly a counterpart of the Edinburgh Medical Journal, and, like it, is to appear monthly. Its contents seem sufficiently varied. Three original memoirs,—one on Scrotal Hematocele; another on two of the Trematode Parasites, *Distoma hepaticum*, and the very rare one *Distoma lanceolatum*; and a third on the use of Ether applied externally to aid in the reduction of Strangulated Hernia. This last paper shows very curiously how averse many, if not most, French surgeons are to use chloroform in any case except when they cannot help it.

It also contains a clinique of the town, or report of hospital cases; reviews of books and of home and foreign journals; with reports of societies, and a judicious sprinkling of medical gossip.

The greatest risk it will probably have to undergo will be found in the number of its editors; for, besides the editor M. Fabre, and two sub-editors, MM. C. Blanchard and Seux (fils), no less than twenty-five other names appear on the cover, all of whom, we are told in the preface, are expected to aid in the management.

We wish the new journal and its twenty-eight editors much peace and success in their undertaking.

Medical Anatomy, or Illustrations of the Relative Position and Movements of the Internal Organs. By FRANCIS SIBSON, M.D. Lond. and Dub., F.R.S.; Fellow of the Royal College of Physicians; Senior Physician to, and Lecturer on Clinical Medicine at, St Mary's Hospital; Member of the Senate and late Examiner in Medicine of the University of London. London: Churchill and Sons: 1869.

THE seventh fasciculus, which has just appeared, completes the Atlas of Medical Topographical Anatomy, in the preparation of which Dr Sibson has been for so many years engaged. We congratulate the author on the successful achievement of a work which represents the results of so much earnest labour on his part, and which is calculated to be of so much real service to physicians and clinical students. We have frequently had occasion to consult the Atlas with advantage; and we regard it as a standard work of great excellence on the subject of which it treats. It has been followed by the similar works of Pirogoff and Lushka; but when we consider the much greater difficulty in obtaining a supply of material which English anatomists have usually to contend with, the credit due to Dr Sibson's original inquiries is greatly enhanced. In the following remarks, which we quote from the preface, these difficulties are alluded to in a different relation, at the same time that the importance of the subject clinically, and the best method of teaching it, are pointed out:—

“Descriptive and surgical anatomy are well taught in our Medical schools, but the practical teaching of medical anatomy, or the knowledge of the relative position of the internal organs, is neglected. Indeed, on the present plan and with the existing means, it is impossible to teach that subject, which is as important for the physician as surgical anatomy is for the surgeon.

“When a body is prepared for the dissecting-room, the arteries are injected from the arch of the aorta to the injury of the great vessels. The superficial dissection of the body precedes that of the internal organs; and by the time those parts are reached, they have lost that freshness which is so necessary for their successful study. Generally, indeed, they are then in a state of decay, and their relative position has been altered.

“It is impossible therefore that the relative anatomy of the internal organs can be taught in the dissecting-room, but the dead-house affords all the materials for their study.

“It falls to the teacher of pathology to make the post-mortem examinations; and it would be easy for him to give practical demonstrations of the contents of the chest and abdomen in health as well as in disease. Afterwards he might take the pupils into the wards or the out-patient room, and indicate to them, on the living body, the varying position of the organs during the exercise of their functions. Under his tuition the student ought to be as familiar

with the position and movements of the organs as if he saw them stripped of their parietes and exposed to view.

"Until this be done, it is self-evident that the teaching of clinical medicine must be imperfect."

With these remarks we cordially agree. At the same time, it should be observed, that the anatomical teachers connected with our Scotch medical schools devote considerable attention to topographical anatomy in their instructions. And in our post-mortem examinations, the clinical physicians are careful to indicate the relations of parts displayed in the autopsy with the physical signs discovered during life. Still, no doubt, more should be done in these respects. Generally, medical topographical anatomy is not sufficiently recognised, although, undoubtedly, clinical medicine, in the departments of physical diagnosis, is impossible without accurate anatomical knowledge. Hence the value of such works as Dr Sibson's. It must not, however, be supposed that the topography of organs has been in all cases definitively ascertained. That something still remains to be done, even in normal topography, is shown, for example, by the curious fact, recently pointed out by Lushka, that current notions in regard to the position of the stomach, as given in our last anatomical text-books, are erroneous. On the other hand, the topography of abnormal displacements, and of tumours, has scarcely yet been attempted. Nevertheless, a certain vantage-ground has been gained; and from Dr Sibson's Atlas the physician and practitioner, as well as the student, can obtain the most important aid in the solution of problems in physical diagnosis. To most physicians its merits have long been known; but the completion of such a work deserves fresh recognition and recommendation.

Orthopædy: the Mechanical Treatment of Deformities, Debilities, and Deficiencies of the Human Frame. A Manual. By HENRY HEATHER BIGG, Assoc. Inst. C.E., Anatomical Mechanician to the Queen and the Prince of Wales, the Royal Hospitals of Chelsea and Greenwich, the Board of Ordnance, the Admiralty, the East India Department; St George's, St Thomas's, Guy's, Middlesex, King's College, University College, Royal Free Hospital, etc., etc. Second Edition, revised and enlarged, with 308 Illustrations. London: John Churchill & Sons: 1869. Pp. xxvi and 642.

HAVING fully noticed the first edition of this excellent Manual in this Journal (No. for February 1867), we have only further to state, that the second edition is an improvement on its predecessor in neatness and completeness. Without endeavouring in the least to take the place of the surgeon in the treatment of deformity, Mr Bigg shows of how much service a skilled mechanic may be in working out the ideas of the surgeon in the management of disease, and in inventing ingenious artificial limbs to remedy mutilation.

Part Third.

MEETINGS OF SOCIETIES.

PROCEEDINGS OF THE EDINBURGH OBSTETRICAL SOCIETY.

SESSION XXVIII.—MEETING X.

14th April 1869.—Dr BURN, *President*, in the Chair.

I. *Mr G. Stevenson Smith* exhibited a foetus, about the third month, for the purpose of making one or two remarks on points connected with its birth. He had been called on Thursday last to a patient who told him that she had menstruated in December, had missed January, but in February, on making water one day, she had a gush of blood, which soon ceased however. The day before sending for assistance, a discharge of dark fetid blood had been going on pretty freely, accompanied by pain in the back. On Thursday morning, while attending to some household duties, there was sudden and severe flooding, which saturated her clothes, and ran in a stream on the floor. On his arrival, Mr Smith found the patient very weak, blanched, and cold. There was considerable hæmorrhage, and, on examination, the ovum was felt protruding through the os. The foetus was removed and ergot administered; but as bleeding was still going on, and the patient was greatly prostrated, and the placenta had not yet been expelled, attempts were made to remove it. The vagina was not yet capacious, the os was high, and much difficulty was experienced in hooking down the afterbirth, which came away in pieces. After its removal the bleeding ceased, and the woman made a good recovery.

Dr Aitken had found the abortion forceps useful in a similar case.

Dr Burn said he thought if there was no bleeding it was better to leave the case to nature, as the placenta usually came away in a short time.

Dr Menzies said in such cases the sponge-tent was useful.

Dr Bryce asked whether there was no other danger besides bleeding in such cases. He had been called to a patient some time ago who had aborted, and found the face flushed, pulse quick, eyeballs ecchymosed, and he at once suspected that the afterbirth had not been removed. The woman got all right afterwards. He had never seen this peculiar condition of the eye, except in one other case in which, after an attack of smallpox, a primipara died immediately after giving birth to a child at the full time.

II. ON A MODIFICATION OF THE FILLET. BY MR CHARLES AMSDEN. COMMUNICATED BY DR AITKEN.

Among the instruments introduced into obstetric practice for promoting the exit of the child from the maternal passages by traction, the Fillet is, perhaps, the simplest in construction and mode of application. It has assumed many forms, being made, at different periods, of tape, whalebone, or steel, but has never met with general employment, partly because of the difficulty encountered in introducing and fixing it on the child's head when it was made of too flexible materials, and partly because laceration of the tissues of the child was a frequent result of its application when made of hard substances such as steel.

Still, however, with all its disadvantages, it has been frequently employed, in one form or another, in private practice, by men who, being at a distance from home without their forceps, have temporarily converted a piece of whalebone, even of an old umbrella, or the steel band from a crinoline, into a fillet, and by its judicious application have been enabled to assist nature to their own satisfaction and that of their patient.

It occurred to my father, who had frequently in the course of his practice derived much benefit from the employment of these temporary substitutes for

the forceps, that by covering a piece of steel band with caoutchouc, it might be readily carried about in the pocket, and would possess some advantages over ordinary fillets.

The instrument as made by him consists of a piece of steel band ordinarily employed in the manufacture of ladies' crinoline, about a quarter of an inch wide and thirty inches long, over which has been stretched a piece of india-rubber tubing. The advantages which this fillet possess are:—

1st, Few patients object to the employment of an instrument so apparently innocuous: while the india-rubber when moistened may be easily passed over the chin or occiput of the child, the caoutchouc at the same time affording a firm grip to the hand. 2d, Owing to the yielding and elastic nature of the covering, the instrument is not liable to cut through or otherwise injure the tissues of the child, and yet it is sufficiently strong to admit of any reasonable amount of traction being made. 3d, Its great portability, since it can be rolled up into a very small compass, and is readily carried in the pocket. 4th, From the simplicity of its construction it can be made by all, and easily replaced at the trifling cost of about a shilling.

It may be said that the instrument is almost valueless when compared with the nearly all-potent forceps; but the latter, from their size and weight, are inconvenient for carrying about, and rather induce the practitioner to leave them at home, unless certain that their employment will be necessary, and thus many an hour has been spent in waiting for nature to finish her task, when a little *vis a fronte*, in the way of traction, would have materially aided and shortened the labour. Again, in many parts where the administration of chloroform in labour is the exception and not the rule, the use of the forceps, which to an unprofessional and uneducated eye present a very formidable appearance, is frequently objected to strongly by both patients and friends, more especially in the hands of young practitioners, whose persuasive powers, not backed by the strong recommendations of age and experience, are frequently put to the utmost test; and, often baffled, they have to submit and wait with what patience and good grace they can summon, till the labour is terminated naturally or imminent danger to the mother or child impends. In many of these cases a simple instrument like the fillet is not objected to, and saves both time, temper, and unnecessary suffering.

Dr Aitken also showed another fillet of steel, flat in the blades, and which could be made to expand over the occiput or chin after its introduction.

Dr Charles Bell remarked that a more simple operation was to press upon the chin from the rectum, as suggested by Sir James Simpson. The great objection to the steel instrument shown by Dr Aitken is its sharpness. It would either injure the head or the vagina. The purchase that such an instrument possesses is not equal to the forceps, and when the forceps are not needed the hand is sufficient.

III. Dr Milne read a paper

ON THE COMBINED METHOD OF VERSION, WITH CASES,
which will appear in a future Number.

Dr Bruce said he had not required to turn nearly so often as Dr Milne, but he had found the combined method very useful in one case.

Dr Charles Bell was of opinion that Dr Milne had said nothing to induce him to adopt the new instead of the old method of turning.

Dr Aitken thought that what Dr Milne had described was not the real combined method of the Germans, which consisted in substituting the head or breech for the shoulder.

Dr Burn said he had had a great many cases of turning, but he usually employed the old method. He had a case the other day, however, in which he used the plan described by Dr Milne successfully. The patient was about the eighth month, and when he called on her she said she felt faint, and had experienced a sensation of falling-down of the womb. She was almost pulseless

and cold. There was pain over the uterus, and she said she felt as if she would burst. There was no hæmorrhage, and the os was closed. Stimulants and morphia were prescribed. At next visit she was a little better. At three o'clock she had fainted, and was losing blood. The os admitted the finger, and the head was felt presenting, but no part of the placenta could be reached. A sponge-tent was introduced. Dr Keiller was called in consultation. At six o'clock the os was dilated so far as to admit two fingers, but was very rigid at the posterior part. Dr Burn began to dilate the os, the membranes had given way, and there were occasional pains. About nine, the os admitted three fingers. With the hand internally he pushed up the head, and depressed the breech by the other hand over the abdomen. He got down a foot, and delivered in half an hour. There was no clot in the uterus. The placenta was quite pale and flaccid, and contained no blood. The mother is doing well. This was the only method of turning that could be resorted to in such a case, seeing that the os was so rigid. In cases of placenta prævia, he would not like to sit down and dilate for fear of increasing the hæmorrhage. It would be better to plug till the os was sufficiently dilated to turn. In cases of rigidity of the os, it used to be the fashion to bleed from the arm, but, strange to say, he had found that the os was usually most rigid when there was great flooding. He had never seen any bad results from turning, and he was of opinion that the combined method was of use chiefly in such cases as the one he had narrated, in which the os is so rigid that the hand cannot be introduced.

Dr Sidey inquired what Dr Milne would do in a case of full placenta prævia. He thought we were all in the habit of using the combined method more or less.

Dr Milne, in reply, said he had not yet had any experience of the combined method in cases of complete placenta prævia. He maintained that Hicks's operation was an entirely new one, for while the Germans simply bring down, Hicks both brings down and pushes up. In reply to Dr Aitken, he maintained that the operation was a new one, nothing resembling it having ever been suggested either in Germany or France.

SESSION XXVIII.—MEETING XI.

28th April 1869.—Dr BURN, *President*, in the Chair.

I. ON THE APPLICATION OF REFLECTED LIGHT IN THE DIAGNOSIS AND OPERATIVE TREATMENT OF UTERINE AND VAGINAL DISEASES, WITH CASES. BY DR KEILLER.

In this communication, which was intimated in a former billet, and which, but for Dr Keiller's absence from town, would have been read to the Society at last meeting, the author pointed out the importance of having the aid of both sight and touch in cases of doubt and difficulty. Illumination is as much required in vaginal and uterine cases as in throat cases, and by throwing reflected light into the passages, their actual condition is clearly made out. In this way inflammation, swellings, ulcerations, follicular enlargements, polypi, fistulæ, and cancer, may be readily detected. The ordinary laryngoscope or concave reflector worn on the forehead answers very well for throwing light through the speculum into the female passages. Dr Keiller exhibited his reflecting models, and the various means he had for some time used in diagnosing and treating uterine and vaginal diseases by the application of reflected light. He cited a number of illustrative cases.

Dr Sidey said he had seen some cases, with Dr Keiller, in which reflected light was used, and the advantages were great.

II. DEATH OF FÆTUS BY STRANGULATION. BY DR JAMES YOUNG.

The patient, Mrs C., has been five times pregnant, but has only one living child. The first child was born at the eighth month. It seemed healthy,

but only survived five days. The second was thrown off at the fifth month. The third, like the first, was born at the eighth month. It lived for three months, and died from diarrhœa. The fourth child was born at the eighth month, and is now eighteen months old and well. The fifth pregnancy commenced in July 1868, Mrs C. having menstruated on the tenth day of that month. The date of quickening was the 15th of November thereafter, and she looked forward to her confinement being about the middle of April following. She enjoyed very good health during this last pregnancy, took her food well, but the fetal movements were not very strong during the early months of this year as she expected, and they entirely ceased on the 7th of March. She sent for me on the 18th of the same month, and, on applying the stethoscope, I failed to hear either the fetal or placental bruit. She had had slight pains all that day. I informed her husband that the child was dead, and that her labour would likely come on soon. I was sent for next morning at three o'clock. The child was born at 5 A.M. quite dead, somewhat putrid, although the liquor amnii had only come away some hours previously. The peculiarity in this case, and the only point of interest, was, that the cord was tightly entwined *three times* round the neck. The child's head was highly congested and florid, with peculiar prominence of the eyeballs. The placenta came away at the same time, so there was no difficulty in the extraction of the fœtus. On removing the cord from the neck, the indentation was quite marked. I have had many cases where the cord has been round the neck and easily slipped over the shoulders. In some cases I have seen it twice round, but this is the only time where I have seen it thrice. In my opinion, the death of the fœtus was caused by a process of strangulation, and the position of the cord seemed to be the cause of the very weak and feeble movements felt by the mother.

Churchill tells us, that "coiling round the neck occurs once in nine or ten cases, and that it only occurs when the cord is longer than usual." I must demur to that idea, as I have more than once seen an average cord in length coiled round the neck.

Sir James Simpson says, in his obstetric works, that the cord was twisted once, twice, or oftener, round the child's neck in 164 cases out of 1417 patients in the Edinburgh Maternity. I can find no note of any case where the death of the child has taken place by strangulation of the cord round the neck.

Dr Sidey stated that similar cases had been reported to the Society.

Dr Cairns said he had a case, some time since, in which the cord was coiled round the arm and thrice round the neck. He did not think that real strangulation could occur *in utero*.

Dr Burn said it was common to find dead children swollen and livid when born, irrespective of strangulation.

Dr Cuthbert thought the cord must have been dragged.

Dr Macdonald had some difficulty in knowing where the pull could be.

Dr Menzies said he had had three cases this year where the cord was twice round the neck, and required to be cut.

Dr Keiller remarked that, usually, such cases could be managed without cutting, even when the cord was three times round the neck. The head should be flexed, and the loops slipped over the back of the head. He thought this case was important medico-legally.

Dr Sidey said he had seen a child born alive with the appearance of having been dead for four days.

Dr Bruce had seen a case in which, after the induction of premature labour, a child was born dead, and quite putrid, although he had detected the heart-sounds shortly before.

Dr Burn had seen cases in which large patches of skin peeled off the belly, and the children did well.

Dr Macdonald had attended a patient whose three previous children had been born dead. The movements of the child were felt just before labour, but at its birth the skin was peeling off.

SESSION XXVIII.—MEETING XII.

12th May 1869.—Dr BURN, *President*, in the Chair.

Dr Rattray of Portobello was admitted as an Ordinary Fellow of the Society.

I. ON THE USE OF CHLORATE OF POTASS IN CERTAIN CASES OF PREGNANCY.

BY DR CUTHBERT.

Mrs M., æt. 34, and married six years, has been pregnant six times. On the first occasion the fetus came away at the second month; on the second, at the fifth month; on the third, at the sixth month, through a fall on the street—the child lived for two days; on the fourth and fifth, she aborted at the third month. The placenta, with the exception of the third one, were all diseased. Upon every occasion there was a good deal of flooding previous to the expulsion of the ovum. When she became pregnant with her sixth, I put her upon chlorate of potass, and ordered her to keep the recumbent position as much as possible for the remainder of the nine months; which she faithfully did by keeping her bed for seven months. On the 29th of April last, her time being completed, and after a moderately easy labour, she was delivered of a fine healthy girl.

Remarks.—This case, I think, shows very well the advantage of the chlorate of potass treatment, along with a strict recumbent position, in those cases where, from diseased placenta, or probably from other causes, the patient is unable to carry on to the end the function of utero-gestation. In the cases which I have related, the placenta were diseased in four out of six pregnancies. In her third pregnancy, the patient unfortunately slipped on the street, which brought on labour; the placenta was perfectly healthy, and probably, but for this accident, she would have carried it to the full term.

Mrs M. is of a nervous temperament, and these repeated disappointments always tended to increase it, and to make her very desponding. During the long period of her constrained and limited position she retained her health remarkably, maintained a hopeful and cheerful spirit, and ate and slept well. She took about seven and a half ounces of the drug.

I may also remark, how slight a cause is sufficient to bring on premature labour. In the third pregnancy of my patient, a mere slip on the pavement sufficed; although, I have no doubt, it would be accelerated by her anxiety about her condition.

Dr Cochrane did not think that all the credit should be given to the chlorate of potass, seeing that its administration had been accompanied by confinement to the recumbent position. There are many cases of a similar nature which do quite well if the patient is kept on her back.

Dr Menzies remembered being called to a patient who had been confined prematurely. He found the placenta diseased, and was told that the woman had aborted previously at the fifth, sixth, seventh, and eighth months. He afterwards put her upon the chlorate, and she went about till the full time, and had a living child. He attributed the success in this case to the chlorate.

Dr Murray said he had recently had a case in which the woman had aborted five or six times, and was much reduced in consequence. She was put upon the chlorate, her health improved, and she went about till the eighth month, when a living child was born. In this instance he quite believed that the chlorate was the means of attaining success.

Dr Bruce remarked, that his faith in the virtues of the chlorate was perhaps not quite so firm now as it once was, although he must say that he had seen many cases in which it seemed to have a good effect.

Sir James Simpson said he had used the chlorate of potass in a great number of cases. Sometimes it failed, but all remedies fail at times. He had seen it succeed in many cases where rest had not been combined with it. In one case a lady, who had had a long succession of abortions, took the chlorate, and had two living children afterwards. It failed sometimes, he thought, because

it was not given in sufficiently large doses. He usually gave it in ten to twenty grain doses, thrice daily, and it should not be given up. He gave it on account of disease of the placenta, but he believed that it was also a means of arterializing the blood. It was necessary, however, to watch the condition of the child, and, if necessary, bring on premature labour when the fetus showed symptoms of weakness. He was led to use the chlorate in such cases by the experiments of Davy and Stephens, who pointed out that an alkaline salt, when brought into contact with blood, gave it an arterial appearance. At one time he imagined that its good effects were attributable to the amount of oxygen which the salt contained. He had been repeatedly told by patients that the movements of the child were stronger after each dose. It might be given in an aerated form, by means of the syphon-bottles now in use. Dr Williams of London uses the chlorate in asthma with marked success.

Dr Kriller said he could look back upon the history of many cases which satisfactorily proved the beneficial effects of the chlorate of potass. One case in particular he remembered, in which the patient, having had a number of miscarriages and still-born children in Australia, was induced to come to Edinburgh to see whether it was not possible to get a living child. He put her upon the chlorate before she again fell in the family-way, and continued it during the pregnancy, and the result was, that the lady was confined of a living child in the eighth month. He thought it was of great consequence in such cases to warn the patient as to the times she was most likely to abort, so that she might be induced to take every precaution at those periods which were usually the normal menstrual times.

Dr Inglis remarked, that what might be termed the permanent effect of the drug was wonderful. Thus, he had often noticed that after the chlorate had been given, each successive pregnancy improved, and the child was longer carried. The bromide of potass does equally well in some cases.

Dr Sidney said that the beneficial results of the chlorate might be explained by the fact that syphilis in children was sometimes cured by the administration of this drug.

II. *Sir James Simpson* exhibited some new sponge-tents dipped in carbolic acid, tied, dried, and turned. They are now much used in London. He also showed specimens of new suppositories and pessaries made with gelatine instead of cocoa-butter. Duncan & Flockhart, he stated, manufactured above 8000 a day, about 2,000,000 a year, which were sent chiefly to Yorkshire. *Sir James* suggested that we might have pills made in the same way. Gelatine paper is used by Professor A. Almen of Upsala for administering remedies.

III. *Dr Inglis* showed a cephalotribe, which was adapted for extracting as well as for crushing. The handles resembled those of Dr Charles's instrument.

Dr Kriller stated the superior advantages of the instrument he had shown at a former meeting, which consisted in its being an extractor as well as a crusher, and altogether less bulky and much more manageable than the instrument now exhibited. He also preferred the ordinary Smellie lock.

Sir James Simpson said, that although Baudelocque used the instrument as an extractor, it was Dr Aitken of Edinburgh who invented the cephalotribe in 1780. He was of opinion that in the instrument shown by Dr Inglis there was a useless expenditure of metal and money. He believed that it would slip and fail to take a firm hold of the foetal head; and he thought the old English joint was much better. He alluded to the new cephalotribe of Goyon, who, first of all, trepans the calvarium and afterwards trepans the base of the skull, which is then easily broken up. De Paul objects to this method, as injury might be done to the mother.

Part Fourth.

PERISCOPE.

MEDICINE.

THE ALKALINE TREATMENT OF RHEUMATIC FEVER. BY DR FULLER.

NOTWITHSTANDING recent discussions, more or less sceptical as to the curative effects of treatment in rheumatic fever, we find Dr Fuller repeating his assurances of the success of the alkaline method. He thinks other modes of treatment have either no effect, or, as in the case of the blistering treatment, are attended by great pain and some danger. He insists, however, that his plan should be properly carried out, and gives special directions for this purpose, which are chiefly as follows:—Alkaline treatment implies not merely the administration of salines and small doses of alkalies, but the exhibition of alkalies or the neutral salts in full and repeated doses,—adequate to produce alkalinity of the urine, if possible, within twenty-four hours. “And, first, as to the alkali and neutral salts which should be selected, and the dose in which they should be given. Practically it matters little whether soda or potash be given, or whether the alkali be free or combined with any of the vegetable acids; but ammonia and its salts do not fulfil the indications for treatment so often referred to, and fail to exercise any influence over the course of the disease. Experimentally, I have given a solution of $\mathfrak{z}\text{ij}$. of carbonate of ammonia every three hours, rendered effervescent by the addition of $\mathfrak{z}\text{ss}$. of citric acid; and I have continued this treatment for eight consecutive days without any apparent result, beyond that of rendering the pulse rapid and weak, and ultimately causing the patient to vomit; the urine remained intensely acid, and usually loaded as at first; the perspiration quite as sour and profuse, and the rheumatic pains just as severe. But I have repeatedly tried the experiment of giving soda alone and potash alone; I have given the carbonates of each alkali alone, and the neutral salts of each alkali alone; and I have also given both the free and the neutral salts in every variety of combination. The only difference I have been able to discover between these various methods of medication is, that the stomach is usually more tolerant of the remedies in their neutral form than when they are uncombined, and that to some persons potash proves less nauseous than soda; but inasmuch as when the stomach is unduly acid a free alkali will accomplish what a neutral salt will not, and inasmuch also as soda forms an important element of the blood, and may be fairly presumed to induce certain changes which would be imperfectly effected by potash alone, my usual practice is to combine the two alkalies, giving a certain proportion of both in the form of neutral salt, but adding a few grains of the carbonate of one or other of them in a free state. A favourite formula is the following, viz. $\mathfrak{z}\text{ss}$. or $\mathfrak{z}\text{ij}$. of the acetate of potash together with $\mathfrak{z}\text{jss}$. of carbonate of soda dissolved $\mathfrak{z}\text{ij}$. or $\mathfrak{z}\text{iv}$. of water, rendered effervescent by the addition of $\mathfrak{z}\text{ss}$. or $\mathfrak{z}\text{ij}$. of citric acid, or $\mathfrak{z}\text{j}$. or $\mathfrak{z}\text{jss}$. of lemon juice.¹ The result is the administration of acetate of potash and citrate of soda with about $\mathfrak{z}\text{ss}$. of uncombined carbonate of soda. In most cases this draught is well borne by the stomach, and, if repeated every four hours, will render the urine alkaline within twenty-four hours; but in severe cases it may be necessary to give it every three hours, for if administered less frequently the urine will sometimes remain acid until after the lapse of thirty-six or even of forty-eight hours, and thus the heart will be exposed for so much longer to the risk of

¹ If the bowels are torpid, I vary the form of this draught by prescribing $\mathfrak{z}\text{ss}$. or $\mathfrak{z}\text{ij}$. of potass. tartrate of soda instead of the acetate of potash, and tartaric acid instead of the citric acid.

inflammation. In exceptional cases the amount of acid formed is such as to resist the effect of these doses of alkalies for three or even four days, but experience has taught me that this happens only when the liver and bowels are sluggish; therefore, whenever I find the tongue furred and yellow, and the urine acid after the alkalies have been administered for forty-eight hours, it is my practice to administer three grains of calomel—guarded by opium if the bowels are loose—or in combination with colocynth if the alvine discharges are scanty and deficient; and in either case the urine commonly becomes alkaline directly a free secretion from the bowels has been set up.

“As soon as the urine has been rendered alkaline, whether at the end of the first, second, or third day of treatment, the alkaline draught is repeated every six hours only; and if on the following day it still retains its alkalinity, the medicine is given twice only in the twenty-four hours. If that dose suffices to keep the water alkaline for two days more, quinine or bark is given in combination with half or less than half of the alkali contained in the former draught; and as the tongue clears and the symptoms subside, the quantity of the alkali is cautiously diminished until a simple quinine draught is taken. Meanwhile, when the tongue has cleared satisfactorily, a little fish or meat is allowed in addition to the beef-tea or broth to which the diet had been hitherto restricted.”

The chief objects to be accomplished, and the errors to be avoided, are thus summarily stated and commented on:—

“The first object is to alkalize the system as *speedily as possible*, with the view of obviating inflammation of the heart. This can usually be accomplished in twenty-four hours if alkalies are given in sufficient quantity; and inasmuch as alkalies do not cause depression, so long as the urine remains acid, they may be given to any amount which the stomach will tolerate until alkalinity of the urine has been produced. In order to prevent their rejection by the stomach, it is advisable to give them in a state of effervescence; and with a view to facilitate their absorption, it is expedient to dilute them largely with water. Secondly, as soon as the urine when freshly voided shows an alkaline reaction, the quantity of alkali should be reduced to the lowest limit which is consistent with the safety of the patient—to the point of just keeping the urine neutral or slightly alkaline—for alkalies administered in large doses and at short intervals when the urine is alkaline, are apt to prove extremely depressing; and from what I observed in two cases to which I was called in consultation in private practice, in which potash had been so administered for many days prior to my seeing the patients, I am inclined to think they may even prove fatal to life. Assuredly, if given beyond the necessities of the case they retard rather than accelerate the patient's recovery. Thirdly, my aim being to carry the patient through his attack with the least possible loss of strength, and to restore the tone of the system as soon as circumstances will admit, I combine quinine or bark with the alkali as soon as it is found that two doses of the alkaline mixture in twenty-four hours suffice to keep the urine alkaline—a fact which proves that the force of the disease is broken. This point is usually reached about the fourth, fifth, or sixth day. Fourthly, it being most important to prevent the recurrence of malassimilation, and so to obviate a recrudescence of the disease, the diet should be restricted to broth or beef-tea until after the tongue has fairly cleaned. If the patient is weak, a little brandy-and-water may be taken, though practically I find that it is seldom needed, and feel sure that in most instances it retards recovery, and that the patient is better without it. But the desire for solid food returns long before the power to digest it, and there is nothing of which I am more convinced than that improper alimentation during the progress of the disease is the most common cause in private practice of its protracted duration; and that, whether in private or hospital practice, a piece of meat taken a day before the tongue has cleaned and the stomach is in a condition to digest it, not unfrequently proves the cause of a serious relapse. I have so often tried this experimentally in the wards, for your especial behoof, that there can be few of you who have not had the opportunity of satisfying yourselves on this point from actual experience.”—*St George's Hospital Reports for 1868.*

SURGERY.

TREATMENT OF CONGESTIONS OF ERECTILE ORGANS BY HYPODERMIC INJECTION OF MORPHIA.

DR BULLOUMIÉ, of the Military Hospital of Toulouse, has frequently employed hypodermic injections of morphia against the painful nocturnal erections, so common during an attack of gonorrhœa, with very considerable success. He injects under the skin, in the neighbourhood of the fourth lumbar vertebra, fifteen drops of a solution of hydrochlorate of morphia, in distilled water, of the strength of about five grains to the ounce (a fifth stronger than our pharmacopœal preparation). If this be done in the afternoon, the chordee is notably diminished during the ensuing night. The injection should be repeated near the same place next afternoon, and then the sedative effect will be so complete that another will not be needed for two nights, after which the cure will probably be completed.

The same treatment has also been used with good effect in cases of stricture, chancre, and after the operation for phymosis. Dr Bulloumié suggests that it might also be tried in females for dysmenorrhœa, or in cases where abortion is imminent.—*Gazette des Hôpitaux*, No. 10, 1869.

FIBROUS TUMOUR OF THE UTERUS.

M. LARREY communicated for M. Kœberlé (of Strasbourg) an account of a case of fibrous tumour of the uterus which weighed nearly thirty-two pounds, which he had lately extirpated with success. We have room only for a brief abstract of the paper.

Mademoiselle O., æt. 34, pale and emaciated, had enjoyed good health to 1863. At that time she began to suffer from constipation and other symptoms of some pelvic derangement; but it was not till 1866 that her increase in size began to attract her attention. Since 1867 the increase has been very rapid. The tumour was regular in shape, partly solid, and partly fluctuating, resembling an ovarian cyst. Two punctures evacuated three quarts of a serous fluid, very rich in cholesterin; and from various points in its history, appearance, and pelvic relations, the diagnosis was made that it was a fibro-cystic tumour of the uterus.

The patient, seeing the rapid increase, and suffering much, requested with great earnestness that an operation might be tried, and, notwithstanding a very candid explanation on the part of the operator, both of the difficulties and dangers, persisted in her request.

Accordingly, on the 31st of August 1868, an incision was made twelve inches in length, commencing one inch below the xiphoid cartilage. At least a dozen punctures were made into the tumour, in hopes of reducing its size, but with the effect of obtaining only about four quarts of fluid.

The fundus and neck of the womb were found free from the tumour, which was connected very closely to the posterior wall of that organ. The intrapelvic portion of the tumour, very small in comparison with the rest of it, acted as a sort of pedicle to it. An iron wire was fixed as low as possible round the base of the tumour, and then the great mass was removed in two lateral halves. The ovaries and tubes were found to be healthy, and the body of the womb was also normal, except for the presence of a small hard tumour, about one-third of an inch in diameter. The intrapelvic portion of the tumour seemed now to be impossible to be got out. It contained a cyst, which was tapped, which reduced its volume, and it was now discovered to extend down to the bottom of the recto-vesical cul-de-sac, and to be adherent there. The case now became one of great peril, and the puncture of the pelvic tumour had so far loosened the wire ligature round the pedicle as to cause hæmorrhage. After having put on a new ligature, the operator incised the peritoneum behind the tumour, and succeeded by tearing, rather than cutting, in enucleating the tumour, dividing the last adhesions to the neck and body of the uterus by means of the actual cautery. One adhesion bled freely, requiring a

silk ligature, which was cut short. The uterus was thus left intact, after the tumour was removed. The great vessels of the tumour were tied *en masse* at a point opposite to the middle of the uterus behind. The incision was stitched up with five deep sutures, and twelve superficial ones. The operation had lasted two hours and a half, and upwards of three pounds of blood had been lost. There was no vomiting from the chloroform, but the patient was very feeble and chilly. On the third and fifth days after the operation there were copious sudamina. On the fifth day there was a profuse dark grumous discharge from the lower angle of the wound. On the eighth day, a glass tube was inserted to allow free discharge. On the thirteenth, a mass of slough was removed from the wound. On the twenty-seventh, suppuration had nearly ceased; and in two days more the patient was able to walk about the room. An examination of the tumour showed that it was composed of a fibro-cellular matrix, enclosing numbers of multilocular cysts. The cysts contained a yellowish fluid, very rich in fibrin.

The above case is remarkable both on account of the exact diagnosis which had been made and the difficulties of the operation. Fourteen similar cases are recorded, two of which, those of Kiwisch and Cruveilhier, were only studied after death, and had not been the subjects of surgical treatment. Koeberlé's case is the only one in which the diagnosis had been determined before the operation. The other cases had been supposed to be ovarian, and operated on as such. In four cases the operation had been left unfinished, and of these three died,—by Brown (1850 and 1862), and Spencer Wells (1864). In the one which recovered, by Atlee (1849), only a simple exploratory incision had been made. In eight cases the operation was finished. In four of these, by Lane (1844), Fletcher (1862), Storer (1865), and Koeberlé (1868), the patients recovered. In the remaining four, by Hakes (1863), Spencer Wells (1863), Koeberlé (1863), and Demarquay (1868), the result was fatal.—*Gazette des Hôpitaux*, Nos. 20 and 22, 1869.

[NOTE BY TRANSLATOR.—This list is certainly incomplete. Among others, it omits the very interesting case reported by Dr Gillespie in our pages, July 1866.]

CASES OF LUMBAR HERNIA.

M. HARDY communicated to the Academy, at its seance of March 2, an interesting case of lumbar hernia, which had lately come under his care at the St Louis. The patient, a female, had been admitted on account of paraplegia due to pressure on the spinal cord by a syphilitic node. One day, in making considerable efforts to overcome constipation, she felt pain, and saw a tumour appear on the external and lower aspect of the abdomen. The tumour, as large as two fists and soft, exists just above the crest of the ilium. The skin over it was not altered in colour; under pressure the tumour disappeared, and in its place a triangular deficiency in the abdominal wall was to be felt. M. Hardy believed this to be an example of a lumbar hernia described by Petit, but which was so rare that its very existence was denied. Cases have been recorded by Pelletan and M. J. Cloquet as well as by Petit.

M. Dolbeau reported that he had seen a similar case in which a medical man had mistaken the hernia for an abscess, and had made a puncture, through which faeces escaped, and yet eventually the patient recovered.

M. Sistach reports a case of lumbar hernia, with remarks. His paper, though not printed till after M. Hardy's case was reported, had been sent in some weeks before. He says, cases of lumbar hernia are so rare that M. Grynfeldt, in his interesting paper on the subject in the *Montpellier Médicale* for 1866, can discover only nine cases previous to his own. There are three more unpublished ones, seen by the Baron H. Larrey, and by M. Bonnefous and Bronicki; so, including the one now to be noticed, only fourteen cases are on record. Still it is as well to be able to recognise the disease, that it may not be mistaken for an abscess, as was done in the case recorded by Lassus, or, still worse, for a fatty tumour requiring removal, as occurred in another case. In

most instances a lumbar hernia is easily reduced, and, as a general rule, is not dangerous; it may cause slight derangements of the digestive organs, which may be easily stopped by its reduction and retention by a suitable bandage.

Case.—C. C., æt. 46, was buried by a fall of earth from a considerable height, and released after it had covered him to his neck for about ten minutes. There was extensive bruising, and numerous superficial wounds on the whole of the left side of the thorax and abdomen. On the left flank there was a great collection of blood, which eventually became an abscess, which was not finally cured till more than three months after the accident. In another month the patient noticed, at the seat of the abscess, a tumour as large as a fist, which increased when he was in the upright posture, and partially disappeared when recumbent. By the advice of a surgeon he wore a leather girdle, which fixed a pad of cat-skin firmly on the tumour. He was also advised and practised frictions of camphorated alcohol night and morning, and, thanks to the bandage, was able to work at easy labour. In February 1867, nearly a year after the accident, he was admitted to hospital on account of rheumatic pains, and the following were the characters of the tumour:—In the left lateral and posterior region of the abdomen there was a rounded, soft, elastic, indolent tumour, as large as an apple, which disappeared under pressure and abdominal decubitus, reappearing in the erect posture and dorsal decubitus, and increasing in size with the slightest cough. When the patient bends forward the tumour disappears, and in its place a well-marked circular depression of two inches in diameter can be felt; but even in this position a forced expiration causes the tumour to reappear. When the patient lies on the left side the tumour becomes very prominent, and resembles closely a cold abscess. When he lies on the right side the tumour entirely disappears. While wearing the bandage the patient is comfortable, and able for his work on the roads; without it he cannot walk without suffering great pain.—*Gazette Médicale de Paris*, Nos. 10 and 12, 1869.

HYDATIDS OF THE HUMERUS.

A CASE of this very rare disease has lately been under the care of M. Demarquay, and is reported at great length. The following is an abstract of the case:—

M. T., a healthy-looking countryman, æt. 53, had served in the army, and then been a gamekeeper. Six years before admission he had received a gunshot wound of the right arm, which, however, after the extraction of the pellets, healed up in fifteen days. Four years after this he had pain, abscess, and a suspicion of fracture, the result of necrosis, the whole terminating in various fistulæ, which discharged pus and small fragments of bone. The probe gave evidence of exposed bone. M. Demarquay made a free incision, passed his finger into the medullary canal, but found no sequestrum, but a large cavity containing matter like semi-concrete pus. The walls of this cavity were in parts exceedingly thin. The cavity was emptied, its walls scraped and gouged, and it was plugged with charpie. After a tolerably prolonged suppuration, the patient recovered, but with a fistulous opening remaining.

The matter removed from the cavity consisted of the walls, more or less perfect, of numerous hydatid cysts, most of them empty. Some hooks were found. The patient, on further questioning, remembered that on the first opening of the abscess numerous little white globules, like peas, came with the pus.—*Gazette des Hôpitaux*, No. 19, 1869.

PARACENTESIS THORACIS.

M. DUPRÉ, of Montpellier, read to the Academy of Medicine, at the meeting of March 30, a paper on this subject.

He commenced by dividing cases of pleuritic effusion into three principal classes. 1. Those inflammatory effusions accompanying or succeeding to true pleurisies. In these the operation is unnecessary, as they tend, as a rule, to get well without it. 2. Serous effusions or hydropsies, the result of organic

lesions. The special dangers of the lesions which cause the effusions, and the tendency to increase and recurrence, show that in these cases the operation is ineffectual. 3. Those cases which the author calls rheumatismal or sero-plastic effusions. These latter are in some cases connected with pleurodynia, neuralgia, and articular rheumatism, with great pain and without a proportional amount of fever. In these cases the effusion occurs without pain, oppression, cough, dyspnoea, or even fever, with little loss of sleep or appetite; yet the patient is pale, full inspiration is checked, the decubitus is confined to one side, there is malaise, the pulse is irregular, perhaps dicrotic; there are signs enough to show what is wrong even without the exact evidence of a physical examination.

Against the latter cases, a purely medical treatment is slow in its effects, uncertain in its results, in some cases quite powerless. The slowness of its action permits injury to organs which may be irreparable, and even exposes the patient to the risk of sudden death.

M. Dupré shows that evacuation of the fluid by operation can prevent these accidents, and that the trifling operation in itself adds nothing to the danger of the case.

He has operated 76 times, with the following results:—

Operated on during second week,	47;	cured,	46;	died,	1.
" within first month,	19;	" 15;	" 4.		
" within second month,	8;	" 5;	" 3.		
" fifth month,	1;	" 1;	" 0.		
" seventeenth month,	1;	" 1;	" 0.		
<hr/>					
Total,	76;	" 68;	" 8.		

Unless there are any special indications, M. Dupré makes the puncture in the sixth intercostal space on the right side, and the seventh on the left, in a vertical line, extending from the centre of the axilla to the hypochondrium.—*Gazette des Hôpitaux*, No. 37, 1869.

Part Fifth.

MEDICAL NEWS.

PROFESSOR SYME'S OBSERVATIONS ON THE REFORM OF MEDICAL EDUCATION.

OF late years there has been a growing conviction that medical education is not what it ought to be; and it was, no doubt, under this impression that the Medical Council last year appointed a committee to inquire into the subject by obtaining the opinions and experience of gentlemen engaged in teaching the various departments of medical science. The information thus obtained has now been printed, and a report is in preparation by the Committee containing proposals suggested by this evidence, which it will be the duty of the Medical Council to consider.

On the perusal of this evidence, it has occurred to me that there is some chance that the Committee, guided by it, may overlook some of the great difficulties of the question, and may suggest alterations which, if carried into effect, would do little in the way of remedy. I take the liberty, therefore, of submitting to the profession the following observations.

During the last half-century there has been an immense development in all the departments of medical science, while the period of professional study has remained very nearly, if not quite, the same as it was previously. The con-

sequence is, that what was formerly attained through real learning or mental appropriation on the part of a student has now for its substitute a process of cramming, or, as it is called, teaching, which, being merely an affair of memory, suffices for nothing more than the purpose of passing examinations, and is apt to leave little or no permanent advantage. Such being the case, it is obvious that merely changing the order in which the departments of study are now taken, or splitting them so as to add to their number, would hardly accomplish the object in view, which is, to increase the proportion of time for real study.

For this purpose there are only two modes of procedure open for adoption : one of these being to lengthen the periods of education, say from three or four to eight or ten years ; while the other is to limit the extent of information to be required from candidates in each department of their studies, whether for obtaining a license or degree. The first of these plans is so beset with inconvenience that it may safely be deemed impracticable ; while the second, although at first sight probably appearing injurious and retrogressive, may nevertheless, when more carefully considered, be found, not only to be free from objection, but to promise much advantage.

When the real object of medical education is kept in view, it does not seem desirable that the students should be thorough chemists, anatomists, or physiologists ; all that is required being that they should possess a sufficient acquaintance with these subjects for the practice of their profession. But it is well known that every teacher now considers it his duty to go over all that he knows of the subject committed to his charge, just as if his pupils had no other claim on their attention, either at present or in prospect ; while, if the same teacher has to examine them, they must cram their memories with answers to his questions, instead of assimilating, or really learning, any true knowledge of the subject.

In these circumstances, as it is obviously impossible to circumscribe teachers within prescribed limits, the most effectual plan would seem to be, providing a catechism for each subject, containing questions merely to the extent of the information necessary for medical students. For the construction of these books committees of the Medical Council might be formed, who, together with teachers of recognised repute, could discharge the important duty thus proposed.

In addition to the advantages that would proceed directly from such a plan, there is another of no small importance that may be mentioned, which is, the prevention of students being examined mainly by their own teachers, especially those who let it be known that they will require the answers to their questions to be in strict conformity with the views expressed in their lectures. It is well known that when such is the case students will frequently attend lectures without any expectation of benefit, and merely to propitiate their examiners.

There is still another advantage that would result from the plan just proposed, which is, putting an end to the baneful system of certificates for attendance. At no very distant period evidence of attendance was not required at all ; and having had some connexion with its establishment, I may relate the circumstances that led to it so far as I am concerned. Before my appointment to the chair of Clinical Surgery in the University of Edinburgh, and while still an extra-academic lecturer, I had offers made to me of fees from students who had not attended my lectures, or even been in Edinburgh when they were delivered. Shocked at these proposals, and indignantly declining them, I feared that in other quarters they might meet with a more favourable reception, and therefore advised the Royal College of Surgeons of Edinburgh that all students desirous of obtaining their diploma should enter their names at the College-hall, together with the tickets of admission to lectures which they had procured for the session about to commence, at the same time paying five shillings for a registration-ticket that would afford admission to the very valuable pathological collection belonging to the College. This plan worked extremely well, and may have given rise to a requisition that emanated from London, and required certification of attendance upon each subject mentioned

in the curriculum. The *Senatus Academicus* of the University of Edinburgh, in order to discharge the duty thus imposed upon them with truth and accuracy, adopted various means, such as calling cards, and reading the roll, which have proved so unsatisfactory that the certificates required have never been given with any feeling of certainty as to their being well merited. In other schools, there is reason to believe that there has been greater laxity, so much so, indeed, as to make the whole system deceptive. The feeling of teachers is therefore understood to be generally opposed to the system of certifying attendance, which, by leading students into habits of deceit, is calculated to injure the honourable feelings of youth. But even if attendance could be accurately ascertained, evil instead of good, I apprehend, would be the result; since I have always observed that, if students felt they were obtaining advantage from lectures, they attended regularly without any compulsion, and that when forced to do so contrary to their inclination it might be easily seen that, although their bodies were present, their minds were absent, and consequently not within reach of instruction. Now, considering the short period devoted to medical education, and its overcrowded state from the number and importance of the subjects contained in it, it will be obvious that such unprofitable attendance must be not only useless, but positively a waste of time.

It is well known that in all boards of examiners there are some more strict than others, and it has hence been deemed very desirable to devise means for insuring the protection of candidates, but hitherto it has been found impracticable to do so; and a further advantage of the catechism system would be its doing away with any complaint on the ground of inequality, since, as the questions might be the same, it would only be requisite to record the answers.

On all of the grounds that have been mentioned, the plan which I have proposed seems worthy of consideration; and, in the next place, I may mention some of the objections which will doubtless be urged against it. In the first place, it may be said that restricting the knowledge of a science within set bounds must injuriously limit the extent of its study, and thus retard its progress; but it should be recollected that eminence in science cannot be obtained directly from teaching, and rather requires a foundation of good principles, together with individual talents, inclination, and energetic exertion—there being, on the contrary, nothing more opposed to real success than the pedantic drilling of men whose scientific character depends more upon specious talking than real knowledge. The next objection to be encountered will be the great trouble and expense requisite for preparing the different catechisms required; but these could hardly exceed those successfully overcome in rendering the *British Pharmacopœia* agreeable to all parties; and I have not the slightest doubt that the object in question would be accomplished before the end of many months, especially if, as it would probably better be, confined to the scientific departments of medical education. With regard to the examinations on practical subjects capable of demonstration, I need hardly say that these ought to be as practical and demonstrative as it is possible to render them, otherwise there is danger of the continuance of the baneful system of cramming, against which it is one of my chief objects in these observations to protest.

However averse to certificates for attendance upon lectures, I still think that candidates for a license to practise should be required to produce evidence of having resided, during the period allotted for education, in one of the great medical schools provided with a large hospital, dissecting-rooms, laboratories, and all other requisites for professional study; and also to produce tickets of admission at the commencement of each session to the various classes mentioned in the curriculum, according to the order there suggested. The great objection to provincial schools is, that the number of their students does not afford the teachers sufficient stimulus for devoting their attention to one subject of instruction, or regarding it merely as a step to something better; while the students are too few to give the excitement which the late Sir William Hamilton was wont to call the *mesmerism of numbers*, and which is so important for success in teaching.—*Lancet*, June 12, 1869.

BARBIER PRIZE AWARDED TO DR THOMAS R. FRASER OF EDINBURGH BY THE FRENCH ACADEMY OF SCIENCES.

AT the annual meeting of the French Academy of Sciences, held on the 14th of June, the announcement was made of the award of one of the two Barbier prizes to Dr Thomas R. Fraser of Edinburgh. According to the deed of the late Dr Barbier, this prize is to be conferred on any one who makes "a valuable discovery in surgery, medicine, pharmacy, or in botany, in so far as it is connected with the art of curing disease." The commission of the Academy appointed to adjudicate the prize has awarded it to Dr Fraser for his researches on the physiological action of the Calabar bean, and especially for his discovery of the remarkable action of this substance on the iris. This discovery was first announced in Dr Fraser's "Inaugural Thesis," published in this Journal, for which a gold medal was given him by the Medical Faculty of the University of Edinburgh. These investigations were extended in a paper read before the Royal Society of Edinburgh in 1867, and subsequently published in the Transactions. After enumerating the results of both papers, the commissioners state in their report :—"This brief mention of the principal results obtained by Dr Fraser from his numerous experiments, the accuracy of which has since been frequently established, seems sufficient to justify the favourable decision of your commission, and the reward which it proposes to confer on that savant. We must bear in mind that it is to the first researches of Dr Fraser that we are indebted for the introduction into therapeutics of the pharmaceutical preparations of the Calabar bean, which have since been employed with considerable frequency in the treatment of numerous diseases of the eye." The report is then occupied with an account of Dr Rabuteau's investigations into the physiological effects of the fluorides and of metallic compounds in general; and it concludes as follows :—"Finally, the commission recognises in the two classes of researches that have now been briefly analyzed, a real advancement of physiology, pharmacology, and therapeutics." It will be remembered that some months ago Dr Fraser received, jointly with Professor Crum-Brown, the Makdougall-Brisbane prize of the Royal Society of Edinburgh, for a memoir on the connexion between chemical constitution and physiological action.

ADDRESS TO PROFESSOR SYME FROM INDIA.

The following has been sent to the *Lancet* for publication :—

To JAMES SYME, D.C.L. Oxon., M.D. Dublin, F.R.C.S. and F.R.S.E., Professor of Clinical Surgery in the University of Edinburgh, Surgeon to the Queen in Scotland, etc.

DEAR SIR,—It was with feelings of deep concern and sorrow that we, the undersigned, lately received the intelligence, by the *Lancet* of the 10th April, that you have been suffering from a serious illness. We are glad to observe that the Editor of that journal remarks : "The attack was not of a severe character, and strong hopes are entertained of a complete recovery."

We hope, dear Sir, it may not prove troublesome to you, under the circumstances, that we, a few of your former students, now in Bengal, should lay before you our good wishes, and beg you to receive this expression of our cordial sympathy.

In doing this, we find it difficult to convey to you the true nature of our feelings in such a matter. We look back, through the vista of many years, to the days when it was our privilege to listen to your teachings, and to mark the skill with which your unerring hand afforded relief to many a sufferer. We recall the intelligence, the intuition, and the masterly confidence ever guiding your actions, whereby, in thousands of instances, the most terrible human miseries have been brought to a happy issue. We remember, with undiminished admiration, that quickness of perception, that steadiness and self-posses-

sion at emergent moments, which you so often and so instinctively evinced when the life or death of a fellow-being rested with you. Your professional precepts have been of great value to us throughout life. Your example (as regards calm wisdom and great practical success) has continually proved an incentive to us in pursuing an honourable and useful ambition. We are proud in keeping before us recollections of your character, and many of us think with feelings of peculiar gratitude of your unforgotten acts of personal kindness to us, your pupils. Indeed, it is chiefly from this point of view, as disciples addressing a master for whom they entertain unbounded respect and regard, that we now desire to communicate with you.

Although your eminence reflects dignity and honour on the profession to which we belong, whilst your name is familiar to the whole civilized world as that of one greatly distinguished among surgeons, and whilst your reputation as a public teacher is of the very highest order, it is not our wish at present to dwell particularly on those remarkable characteristics. We rather desire to tell you, in simple words and with genuine sincerity, that we have been grieved to hear of your late illness; and, without presuming to encroach on the privacy and sanctity of your domestic life, we beg you, dear Sir, to believe that the undersigned, who so well know your public character, with all its honest independence and fearless candour, and at the same time your great private worth, feel deeply interested in your wellbeing and happiness, and truly sympathize with you in the anxieties, griefs, and bereavement which have lately fallen to your lot.

We trust, for your own sake and for the good of mankind, that you may soon be restored to sound health; that, as you yourself have during a lifetime healed others, so now you may be healed; that you may enjoy the great comforts of human sympathy and friendship, and be fully sustained in your hours of sickness by Divine compassion and support.

In expressing such thoughts and wishes from a distant land, we, the undersigned (who are but a few out of a vast number of men scattered abroad who cherish great admiration for your distinguished character), beg, dear Sir, to subscribe ourselves, with unqualified respect and esteem,

Your devoted pupils,

- J. P. BROUGHAM, M.D., Surgeon-Major and Presidency Surgeon.
- F. W. INNES, M.D., Deputy Inspector-General, British Forces.
- H. MITCHELL, Surgeon, 96th Regiment.
- ROBT. SUTHERLAND, Assistant-Surgeon, Statistical Officer to Inspector-General.
- C. PALMER, M.D., Surgeon-Major, Presidency Surgeon.
- J. FAYRER, M.D., Surgeon, Professor of Surgery and Senior Surgeon Med. Coll. Hospital, Calcutta.
- ROBERT BIRD, M.D.
- DAVID B. SMITH, M.D., Surgeon, Sanitary Commissioner for Bengal.
- J. PHIN SMITH, M.D.
- KENNETH B. STUART, M.D., F.R.C.S.E.
- D. DOUGLAS CUNNINGHAM, M.B.
- K. MACKENZIE DOWNIE, M.B., C.M.
- T. EDMONSTONE CHARLES, M.D., M.R.C.P. Lond. Art. Obstet. Prof.
- A. FITZGERALD, F.R.C.S. Edin., Graduate of the University of France, M.R.C.S. Lond., Licentiate in Midwifery (Dublin), Surg. 9th B. N. I.
- JOHN H. BEATH, M.D., Staff Assistant-Surgeon.

P.S.—As considerable unavoidable delay must occur in circulating this letter throughout the Bengal Presidency, it is thought well to despatch it as it is, with the above fifteen signatures obtained in Calcutta alone, or its vicinity. The names of gentlemen stationed in other parts of Bengal who are interested in, and approve of, the sentiments above expressed, will be shortly forwarded.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Continued Observations on Hæmoptysis.* By Dr VALD. RASMUSSEN. Translated from the *Hospitals-Tidende*, Copenhagen, March 17 and 24, 1869, by WILLIAM DANIEL MOORE, M.D. Dub. et Cantab., M.R.I.A., L.K.Q.C.P.I., and R.C.S. Edin.; Honorary Fellow of the Swedish Society of Physicians, of the Norwegian Medical Society, and of the Royal Medical Society of Copenhagen; Secretary for Sweden, Norway, and Denmark to the Epidemiological Society of London.

IN a former essay,¹ based upon my own observations, I have endeavoured to give a description of hæmoptysis in its anatomical and clinical bearings; and, in particular, I have, in eight cases of hæmoptysis in patients with chronic pulmonary phthisis, to which, during the preparation of my paper, a ninth was added, demonstrated the constant origin of the hæmorrhage from cavities by rupture of ectasias or aneurisms on small branches of the pulmonary artery, running in the walls of cavities. Since that time I have had the opportunity of making two dissections of patients who died during attacks of hæmoptysis, which I shall now take leave to communicate, as they form a very satisfactory supplement to my former observations, which they in all points confirm, and in some respects extend and complete.

I. (10th) CASE.—*Phthisis cavernosa pulmonum. Aneurisma ruptum art. pulmonal. in cavernam bronchiectat. Ulcerat. tubercul. coli.*—Emmy Emilie Larsen, aged 18½ years, unmarried, admitted on the 12th May 1868 into the second division of the Kommune Hospital. Her father died of disease of the chest; her mother, brothers, and sisters are said to be in good health. As a child she had ulcerations on the sides of the neck, on the arms and legs, which have left white, streaked, deep cicatrices. Regular menstruation, which commenced in her fourteenth year, ceased four months ago. She was always inclined to cold, with cough and dyspnoea. She was confined once a little more than a year ago; the child is healthy. During the last two months she has incessantly had troublesome cough, with expectoration speckled with

¹ *Hospitals-Tidende*, 1868, Nos. 9–13. Edinburgh Medical Journal, 1868, November and December. Translated by W. D. Moore. British and Foreign Medico-Chirurgical Review, January 1869, and elsewhere.

yellow, but never mixed with blood; the dyspnœa has increased, and she is greatly emaciated; her sleep has been disturbed, accompanied with violent perspiration. No appetite, great thirst, and latterly diarrhœa from four to eight times in the twenty-four hours. She has, however, got up, but has been so weak that she could not work (sew).

On examination, she was found to be emaciated, slight, very pale; her skin was burning hot, her chest emaciated, sunk in above and beneath the clavicles. On physical investigation, the usual signs of large cavities in the upper lobe of both lungs were met with, especially on the left side. The abdominal organs presented nothing abnormal. The tongue was half dry; she complained of a bad taste in her mouth, some thirst; pulse 84. On the 15th of May there was some improvement. On the 18th there were spots of blood in the expectoration, which disappeared the next day. On the 29th blood was again seen in the expectoration. The cough became more troublesome, the nocturnal perspiration and diarrhœa were very considerable, and her strength already began to fail greatly. On the 24th June the following entry appears in the journal:—"The patient's condition was yesterday as usual. Early this morning she got a fit of coughing, and brought up a mouthful of frothy blood, and immediately fell back and died."

The post-mortem examination was made twenty-eight hours after death. Cadaveric rigidity, body much emaciated, heart small, healthy. Both lungs very firmly attached to the thorax by dense cicatricial layers of connective tissue, especially in the apices, which layers, particularly in the right lung, were one centimètre in thickness. In the apex of this lung, a cavity of about the size of a duck-egg is seen, very much elongated and sinuous, bounded everywhere by an almost cicatricial tissue, in which are found only slight remains of pigmented pulmonary tissue. Beneath this cavity are found some smaller cavities, the smallest being only about the size of a nut, and lodged in a perfectly similar tissue. None of these cavities, into which bronchi everywhere open with eyelet-hole orifices, contain blood, but only a puriform, in some cavities, slightly chocolate-coloured fluid. Beneath this part, which occupies about the upper third of the lung, the tissue is completely permeable to air, with scattered miliary tubercles in moderate quantity, most frequently with a well-marked peribronchitic character. On more careful examination of the boundary between these two parts, a cavity of the size of a large pea is found, forming as it were an ampulla-like dilatation on a bronchus of the thickness of about a crow-quill. The bronchial wall itself can be traced in its continuity only a little beyond its entrance into the cavity; otherwise it is bounded by a layer of condensed pulmonary tissue of about one millimètre in thickness, outside which the tissue is permeable to air, with a moderate amount of the tubercles above mentioned. Into this cavity projects a swelling of the size of a large grain of shot. It is

situated close to the opening, and is found to be a small aneurismatic dilatation on a branch of the pulmonary artery accompanying a bronchus, which dilatation, when slit up, measures three millimètres.

This aneurism burst with a small slit-like fissure; from the opening a large, firm, decolorized coagulum projects, and the inside of the aneurism itself is invested with a thin layer of firm, light-red fibrin. All the bronchi to the lower lobe are filled with coherent coagula of blood, and likewise throughout the pulmonary tissue small light-red hæmorrhagic infiltrations are seen.

The bronchial glands are greatly swollen, of a light-gray colour, firm, here and there pigmented.

In the pleura and its adhesions is no perceptible miliary deposition.

In the left lung are similar smaller cavities not filled with blood; they are circumstanced in all respects essentially like those on the right side.

In the large bronchial trunks on both sides a large amount of blood is met with; it is found in smaller quantity in the trachea. In this, as well as in the larynx, nothing else abnormal is discoverable.

The spleen is somewhat enlarged, firm, with numerous and large follicles.

The kidneys are cyanotic, without any miliary deposition.

The liver also is cyanotic.

The mesenteric glands are only slightly swollen; they are pale.

In the small intestine, some follicular swelling is met with, especially about the ileo-cæcal valves. In the large intestine, several irregular, sinuous, large ulcers are found, partly smooth, partly with distinct miliary deposition; several seem on the point of healing.

This case is one of no slight interest. In the first place, as to the clinical course of the hæmoptysis, we see such occur, and for the first time, in a patient with pulmonary phthisis already far advanced, in the beginning only as a few spots of blood, and ten days later tolerably violently; it ceases, while the hectic condition is still further developed, though without signs of secondary pneumonic infiltrations, and not until a month later does the fatal hæmoptysis come on, not profusely, as we are accustomed most frequently to see it, but even very sparingly, only a tablespoonful of blood being brought up, while death nevertheless takes place very rapidly and suffocatively by obstruction of the bronchi in the hitherto sufficient parts of the lungs. This condition is, however, according to my former observations, not so striking; for, in such advanced phthisis, death may occur without even so much as a drop of blood reaching the mouth, as my sixth case shows.

This case presents greater interest, however, in an anatomical point of view; I shall therefore examine the results of the post-mortem examination more closely. We found in the apex of the

right lung a large cavity, bounded by dense, cicatricial tissue, and below it some smaller cavities lodged in a similar tissue. They contained no blood, nor was there, to judge from the cicatricial appearance of the whole of the adjoining tissue, any reason to suppose that the hæmorrhage could proceed from any of these cavities; on the contrary, the bronchi were everywhere filled with blood. This case seemed therefore really to afford decisive evidence in favour of the correctness of the opinion hitherto generally received as to the broncho-hæmorrhagic origin of the blood. I should scarcely have been in a position to demonstrate the true source of the latter, if I had not had in my previous investigations so firm a standing-point, and a decided conviction, thence derived, that it must be sought in a cavity. I therefore took three sections from the boundary between the completely condensed and the still permeable parts of the lung, and in this manner I soon succeeded in discovering the little cavity, which, notwithstanding its minuteness, had all the characteristic properties of a bronchiectatic cavity of some standing. A very small artery accompanied the bronchus leading to the cavity, and at the point where it touched the latter the small aneurismatic dilatation was found.

What further deserves our attention in this case is the coagulum met with. In my first essay, I had not concealed the difficulties which presented themselves in the explanation of the observation, so important in a clinical point of view, that hæmorrhage demonstrably proceeding from small aneurisms which have burst into cavities may occur remittingly or even intermittently. Those remitting hæmorrhages seem not to be accidental; for, of the four aneurisms in cavities observed by me, they were met with in three, and the same was the case in the two similar foreign observations of Cotton and Fearn. These remitting hæmorrhages stood in striking contrast to the sudden death occurring with violent hæmoptysis in ectasias in cavities with operculated rupture, and it was therefore evident that these remissions in the hæmorrhage in the aneurisms must be due to peculiar conditions in the latter. What would naturally occur to one in the first instance was, that in the aneurisms coagula existed, which, as in hæmorrhages from aneurisms in larger vessels, permitted only an oozing, or, at all events, the escape of only a small quantity of blood; but such coagula I had never been in a position to demonstrate in either ruptured or whole aneurisms; and although I hinted that in the first case they might possibly have escaped with the strong current of blood, I did not feel myself justified in abandoning the strictly anatomical foundation on which my essay was based. I had, in fact, at least in one case, unmistakably observed a punctated, fatty degeneration of the aneurismatic wall, and I therefore supposed, that from the first a small opening had probably formed, which had been closed by a coagulum, and that a larger rupture had taken place at a subsequent period of the progressive fatty degeneration. In this instance, on

the contrary, a distinct fibrinous deposit of some standing was found on the inside of the aneurism, and out of the ruptures protruded a large, firm, decolorized coagulum of some standing, which the comparatively feeble current of blood in all probability was not sufficiently powerful to carry away. It therefore appears to me that we are justified, according to this case, in assuming that these remitting hæmorrhages, as, moreover, seems most natural, were due to obstructing coagula.

The rapid occurrence of death in this instance was due, as I have mentioned, chiefly to the patient's advanced phthisis, and the slight power of resistance she consequently possessed. Had such a hæmorrhage occurred in a still vigorous individual,—for example in the patient formerly mentioned in our first case,—we shall, when we take all the circumstances in the earlier case into consideration, scarcely be able to deny the possibility that the hæmorrhage might have been definitively arrested, as the aneurism and its afferent little vessels had become filled with obstructing coagula, which had gradually been organized. Matters were here singularly favourable: a small aneurism on a little vessel, and a very small cavity with a single outlet. This case is therefore interesting also, as it seems well adapted, if not to prove—for a positive proof on this point can scarcely be adduced—at least to make it probable, that hæmoptysis during the course of chronic pulmonary phthisis, in many instances in which it does not directly induce death, depends on similar ruptures of small vessels in small cavities with insufficient outlets, as I described in my former essay. Without repeating what is there stated, I shall only once more allude to the fact that hæmorrhages, demonstrably proceeding from rupture of aneurisms into cavities, in no respect differ from any other hæmoptysis occurring during the course of chronic phthisis.

Further, it cannot be denied, that such a small bronchiectatic cavity as that in the case before us was in its development—as, moreover, its location in the transition to the permeable parenchyma indicated—may be found in an apparently healthy individual, and therefore may also become the starting-point of an hæmoptysis; and, according to my experience, it cannot be matter of surprise, that I look upon the cases of hæmoptysis in perfectly healthy individuals, reported by authors, with suspicion, and am inclined to refer the source of the hæmorrhage to such a small overlooked cavity. This is a view which I have on a former occasion expressed, after I had seen a cavity of the size of a nut give rise to fatal hæmorrhage, and which in this last observation, where the cavity was of the size only of a large pea, appears to me still more probable. I of course except those cases where the hæmoptysis is vicarious—if such vicariousness, of which I myself have no experience, really does exist—and possibly also the cases, though they are rare, of intermittent hæmoptysis in destructive malarial fevers (*Febr. perniciosa hæmoptoica*).

II. (11th) CASE.—Chr. Fredr. Vilh. Schroeder, aged 41, formerly a periwigmaker, has, for many years, been an inmate of the General Hospital on account of chronic pulmonary phthisis. He has almost constantly been able to be up, but suffered from a persistent and rather violent cough, with expectoration; this has, for the last fortnight, been somewhat tinged with blood; but only on one day, three days before his death, was a small quantity of clear blood brought up. On the morning of the 7th December 1868, after he had drunk his tea, feeling as usual, he got, while he was at stool, an attack of profuse hæmoptysis—he complained particularly of violent pains in the præcordial region, which caused him to cry out.

He was at once transferred to the Infirmary, where the usual remedies were applied. The hæmorrhage seemed to diminish, but the violent pains in the præcordium continued, rendering the subcutaneous injection of morphia necessary. No sooner, however, was the point of the syringe pushed through the skin than the blood streamed afresh from his nose and mouth, and in a few minutes he was dead.

The post-mortem examination was made next day. Cadaveric rigidity; body rather emaciated.

The heart is of the usual size, flaccid; contains loosely coagulated masses, and scattered œdematous fibrinous coagula.

Both lungs, especially the right, are firmly adherent to the thorax. The right upper lobe is strongly retracted, changed into a cicatricial mass, in which only here and there are seen scattered remains of pigmented pulmonary tissue. On the surface of section are found some, most frequently elongated, small cavities with smooth, connective-tissue-like walls, and moderately dilated bronchi; in these, as well as in the cavities, is found abundant thin, rather dusky, blood. Nowhere are any miliary or peribronchitic depositions met with.

The anterior edge of the left lung and the upper part of its anterior surface has a rugged appearance, due to a very considerable emphysema, the vesicles in some places attaining to the size of a walnut. In the apex, and somewhat down along the posterior margin, is a cavity of the size of an egg, reaching posteriorly to the greatly thickened pleura. In passing from the anterior to the posterior wall, about the middle, on washing away the abundant, loosely coagulated or fluid blood, which forms the contents of the cavity, a prominence of the size and shape of a large pea is met with. This is formed by an aneurismatic dilatation, which, in the whole length of its upper surface, presents a gaping fissure, with thin, scarcely yellowish edges, which, nevertheless, inferiorly towards the passage of the aneurism into the wall of the cavity, become perceptibly thickened. On slitting up the pulmonary artery, the branch on which the aneurism is situated is found to have a diameter of five millimètres, and to be a branch only half a centimètre in length from one of the main trunks. The efferent branch is so minute that it admits only a horse-hair, and is quickly lost in the bottom of the

condensed wall of the cavity. This wall has inferiorly a thickness only of three or four millimètres, and to it the permeable pulmonary parenchyma directly reaches. On different parts of the wall of the cavity, eyelet-hole bronchi open.

The rest of the lung is permeable to air, only in the inferior lobe are here and there collected, in small groups, large yellowish tubercles with a distinct cavity, and in the immediate surrounding of these are scattered miliary tubercles. In all the bronchi, even to the lower lobe, is thin blood.

There is no evident miliary deposition in the pleura. The mucous membrane in the bronchi is thickened, deeply tinged with blood. In the larynx and trachea is nothing abnormal except blood. The follicles at the root of the tongue are greatly swollen.

The spleen is rather large, swollen, soft, with numerous large follicles; no trace of amyloid change.

The liver is very large and heavy, with characteristic and very extensive amyloid degeneration.

The kidneys are of the ordinary size, and exhibit only slight parenchymatous, but no amyloid changes.

The other organs present nothing abnormal.

In this case also we see hæmorrhages preceding the last fatal attack, at first sparingly, as an imbibition of the expectoration, and finally, three days before death, we have a more copious bleeding. Death occurred during a violent attack of hæmorrhage, which had, however, diminished, to return after the lapse of an hour, and immediately terminate fatally. The rupture of the aneurism was accompanied by an unusual phenomenon, which was never observed in any of the former cases—namely, an exceedingly violent pain in the cardiac region, for which the post-mortem examination did not indicate any special cause. It is remarkable that the complete rupture, with the extrusion of the obturating coagulum, which, in all probability, had been present and prevented instantaneous death, did not occur before, when the loud cry, which the violent pain forced from the patient, was uttered. That in this case, too, there had been an obturating coagulum, which had been forced out with the last and fatal hæmoptysis is indubitable; the great gaping slit in the aneurism, the tolerably large vessel on which the latter was situated, and the almost direct connexion of the aneurism with one of the principal trunks of the pulmonary artery, make it clear that the patient must have died instantaneously, if such a coagulum had not existed. The cavity was in this case large; it may, however, as our former observations show, be still larger, and it had the thin wall almost peculiar to these aneurism-bearing cavities, with which the relatively healthy and still permeable parenchyma is in direct contact.

The cases I have collected, and in a comparatively short time, are, therefore, eleven, in which we have demonstrated the constant

occurrence of the hæmoptysis from cavities ; and it deserves to be remarked, that, since these investigations commenced, we have not had the dissection of a single case where this source of the hæmoptysis has not been demonstrated. This number, although in itself small, may, nevertheless, in proportion to those of other investigators, be even called very large ; it is, at all events, sufficient to exclude every possibility of the accidental, and, as I hope, also to give a tolerably clear idea of the most essential circumstances under which these aneurisms and ectasias, so eventful for the patients, are developed. I shall further remark only, that I never remember to have seen any case of rupture of a vessel running in a trabecula passing through a cavity, as is generally stated by authors.

The reports from other quarters of cases of hæmoptysis from ruptured aneurisms are as yet but very few ; I shall therefore refer to one recently published in the *Medical Times and Gazette*, January 16, 1869, page 66. The case occurred in the Victoria Park Hospital, under the care of Dr Birkett. The post-mortem examination was made by Dr H. G. Sutton. The reporter of the case calls attention to the interesting clinical fact, that rupture of the aneurism did not immediately cause death. He explains this, as I have done, by the presence of an obturating coagulum, and points out the resemblance of the minor hæmorrhages in this instance to what is frequently seen when aneurisms of the chest and abdomen open on mucous surfaces. Dr Sutton stated that, in 1859 and 1860, he observed two similar cases, which, however, are not described. It is further stated that, in the last eleven and a half years, 16 patients have died in the hospital of hæmoptysis, and 321 of phthisis ; so that very little more than 5 per cent. of those labouring under and dying with phthisis have suffered from fatal hæmoptysis while in the hospital ; and the writer therefore assumes, as almost all other authors do, that fatal hæmoptysis is very rare. In my former essay I have shown that it is not possible from hospital statistics to deduce any reliable inference as to its frequency, as it is a matter of chance whether the aneurism bursts during the patient's stay in hospital, and death usually occurs so rapidly that they have not time to reach it.

(To be continued.)

ARTICLE II.—*Case of Pelvic Hæmatocele.* By LAUCHLAN AITKEN, M.D.

(Read before the Obstetrical Society of Edinburgh, 23d June 1869.)

THOUGH cases of pelvic hæmatocele are by no means uncommon, and even though the Society, in former years, must have been favoured with communications on a subject of so much interest to

it, yet I do not hesitate to bring this case before you, as it is not only in itself a typical example of the intra-peritoneal variety of the affection, but also because it illustrates very admirably the many difficulties which we have to encounter in arriving at a correct diagnosis of some of the obscurer pelvic diseases. Before describing this particular instance of the complaint, however, I may perhaps be permitted to make a few observations on hæmatoceles generally.

It may probably be known to most of you that these pelvic extravasations of blood have been divided into two classes—intra and extra or sub peritoneal; but as I regard the former not only as far the most common, but also as much the most important, I will not wear out your patience by dwelling on the extra-peritoneal variety at all. Indeed, some authors deny the existence of such a variety, except in connexion with parturition and abortion, or from some such cause as external violence.¹

Before going further, it may be as well to remind you that pelvic hæmorrhage of any kind is never to be regarded as a disease in itself. It is as essentially merely a symptom of a disease as dropsy is, and although in some cases it may be impossible for us to point out the part primarily affected, still I do not hesitate to deny *in toto* the occurrence of such cases of hæmatocele as have been said to arise through mere exhalation from the pelvic vessels. When

¹ Setting aside the parturient variety, there are only two or three properly recorded cases of extra-peritoneal hæmatoceles, in which the diagnoses have been verified by the autopsies. One of the first of these is reported by Sir James Simpson, in his Lectures on the Diseases of Women, in the *Medical Times and Gazette* for August 1859. "A patient," Sir James says, "was sent from a great distance to Edinburgh, in consequence of a pelvic tumour having suddenly appeared. Fatal inflammation was set up by the journey. On dissection I found the reflection of the peritoneum between the uterus and rectum raised up as shown in the diagram, and a large mass of broken coagula of blood formed the tumour, having been extravasated behind the peritoneum, forming the posterior covering of the broad ligament, and, as it accumulated, having separated and pushed before it that portion of peritoneum in the utero-rectal fold of this membrane."

One of the German writers on hæmatocele—Schröder—who seems to have taken great pains in the collection of such cases, doubts whether this was an extra-peritoneal one at all. But any unprejudiced person reading the very circumstantial account of the position of the tumour which Sir James gives cannot have the slightest hesitation to which class he ought to refer it.

The only other very authentic instance of extra-peritoneal hæmatocele, the real position of which has been proved by the autopsy, is given by Ott in a thesis published at Tübingen in 1864. The blood tumour was only discovered by an accident, its existence not having been suspected during life. The patient, aged 28, died of typhoid fever. The encysted blood mass, which was about the size of a small apple, lay in the cellular tissue, between the rectum and vagina, only a few lines below the recto-vaginal fold of peritoneum. There were other two blood tumours of smaller size nearer the levator ani. The broad ligaments contained remarkably dilated veins. I may here mention, that I once produced a similar extra-peritoneal blood tumour by subcutaneous section of the sphincter ani, but I would not be inclined to call this an hæmatocele.

we reflect on the analogous case of the brain, it cannot in the least surprise us that we are occasionally unable to detect the vessel or vessels which have been ruptured, or, amidst the blood mass, the part or organ which has been diseased.

What then, you will ask, are the principal conditions which give rise to intra-peritoneal hæmatoceles? and in reply to such a question, we may, I think, easily divide them into four distinct classes:—

1st, Hæmatoceles due to the rupture of a pelvic bloodvessel or organ, such as the ovary.

2d, Hæmatoceles from reflux of blood into the peritoneal cavity, on account of stricture or obliteration of the Fallopian tubes, or of the cervical or vaginal canals.

3d, Hæmatoceles arising during the progress of a metrorrhagia, and thus generally by reflux of blood from the uterus or Fallopian tubes.

4th, Hæmatoceles from the giving way of pelvic capillary vessels in such affections as scurvy, typhus, etc.; and to this class we may add those cases adduced by Virchow of extravasation from the giving way of vessels in the pseudo-membranous formations in cases of chronic pelvic peritonitis—if such cases occur at all.

It is to the first of these classes that the case I now bring before you belongs, and you will pardon me if I enter somewhat fully into its details.

Isabella Chalmers, æt. 50, married, from the neighbourhood of North Berwick, was admitted into Ward XII. on 9th November 1868, suffering under what was then diagnosed as pelvic peritonitis.

That part of her history which has any bearing on our case may be briefly stated as follows:—

She has had three children, all her confinements having been natural; and up to the time she ceased to alter—about a year ago—her health had been excellent. Some short time previous to the cessation of the menses, she had been troubled with severe pains in the back, increased by exertion, which the doctor said were due to the change of life. Further examination showed ulcers on the os uteri, which were treated with caustic. She was also troubled with severe bleeding during the month of November 1867; but there has been none since. The pains, however, continued until July last, when she was admitted into the ward with what was then diagnosed as hypertrophy of the uterus, for which she was mainly treated with mercurial pessaries—not, however, carried to salivation—and she went out, according to her own statement, feeling much better.

On returning home, she seems to have acted very imprudently, going about the same evening looking at her cows, pigs, and farm-stock generally, and that, after the fatigue of the railway journey, seems to have brought back the pain. She called in her own doctor, who repeated a diagnosis he had formerly made of cancer, and allowed, nay urged, her to go about. She became much worse, and some time during the month of August she came into Edinburgh and saw me, and then I had no difficulty in diagnosing,

as I thought, a case of pelvic peritonitis. I recommended absolute rest, iodide of iron, and blistering, there being no fever, and the exudation being chronic and showing no signs of suppuration. Unfortunately she did not follow out this treatment, as her country doctor laughed at it, and, repeating his diagnosis of cancer, treated her accordingly, allowing her to go about until the pain became so bad as absolutely to necessitate rest. I saw and heard nothing more of her from August until the first week in November, when she again came into Edinburgh; and I then found the condition of matters much as I will immediately describe. I wished her to remain in the ward at that time, but, as she said it was impossible, I rather foolishly allowed her to go back to North Berwick, to return as soon as she could; and she did so on the 9th.

On admission into the ward, the main symptom was great pain in the back over the sacrum, and in both iliac fossæ. Her general health seemed good. The pulse strong, only about 86 per minute. Tongue clean. Appetite had been fair up to that time, and her bowels very regular, but there was pain both with the acts of defecation and micturition. Skin moist and cool.

On careful examination of the abdomen, it was found to be slightly distended. The percussion-note was tympanitic, except over the left lateral surface below a line drawn between the anterior superior spinous processes, and extending over the mesial line slightly into the right side. The dulness was most marked over the left iliac fossa, and, on pressing gently down, an irregular but hard and tender tumour was found to exist in the parts corresponding to the dulness.

Internal examination per vaginam showed the uterus absolutely fixed in the mesial line of the pelvis by a hard mass, which seemed to exist in almost uniform consistence and density about it. This mass completely blocked up the whole pelvic cavity, and was very tender to the touch. The os was high in the pelvis and the cervix close to the pubes. There was a muco-purulent discharge from the vagina, but it was not thought advisable to make any examination either by the speculum or sound. There was no feeling of fluctuation at that time in any part of the tumour. The diagnosis was made—"chronic pelvic peritonitis."

12th Nov.—Since admission, symptoms of a more alarming kind have arisen. She has much greater tympanitis, and vomits her food; still the tongue remains clean and moist, and the pulse below 90, but she has violent night sweats. Ordered 5 grs. of citrate of iron and quinine three times a day.

15th Nov.—Vomiting continues. Pulse 100, weak but regular. Tympanitis increasing. Ordered ice and milk diet, with a mixture containing dilute hydrocyanic acid and chloric ether, with suppositories of one-third of a grain of morphia for the pain, of which she complains greatly, especially in her back.

16th Nov.—Pulse 100, feeble; tongue clean; pain more severe.

To-day an incision was made per vaginam into a sac between the rectum and vagina. It was filled with pus and blood, and a good many old clots turned out, but the size of the tumour was not diminished.

The next day she had had a restless night, and complained much of the thirst and of the pain in her back. Pulse 116, full and strong. Tympanitis, but no vomiting.

18th Nov.—Had a quieter night, having used one-third of a grain of morphia in suppository every four hours. Pulse 120; thirst considerable, and tympanitis continuing to increase. Vomiting. Has only had beef-tea, brandy and water, and iced milk.

19th Nov.—Pulse 120, becoming feebler. No sickness during the night. Bowels have moved. Pain in the back less.

20th Nov.—Pulse 148, feeble and intermitting.

21st Nov.—Pulse very quick and feeble, scarcely to be counted. Tympanitis excessive. Singultus. Skin cold and clammy. Died at 3 P.M.

Autopsy¹ 46 hours after death.

Body well nourished. Abdomen very much distended with gas, and slight greenness appearing over it. Hypostatic congestion well marked.

The chest was opened, and the heart and lungs found to be quite normal.

On opening the abdomen, a large quantity of grumous fluid escaped. The intestines and other abdominal organs were found matted together, and adherent to each other and to the abdominal wall by recent lymph, which in the pelvis and about the liver was deposited in great abundance.

In the left iliac and hypogastric regions, extending from behind the uterine cervix up nearly to the level of the umbilicus, there was a large tough partially decolorized blood clot of a dirty reddish gray colour, very irregular on its surface, appearing lobulated, and weighing 36 ounces. This clot, on examination by the microscope, was found to consist of fibrine, broken-down blood and epithelial cells, hæmatine crystals, and molecular matter. The recto-vaginal pouch of the peritoneum was filled partly by the apex of this clot, but chiefly by soft pulpy lymph, and at the bottom of the pouch there was an incision about half an inch in length, through which the point of the finger could pass into the peritoneum from the vagina. On the left side, almost completely imbedded in the blood-clot, and close to the line of the incision, was an irregularly-shaped ovarian tumour, about the size of the closed fist, containing a yellowish purulent-looking fluid, mingled with blood-cells, hæmatine crystals, and flakes of cholesterine, which in several places had become agglomerated into semi-solid gritty concretions. Right ovary normal. The uterus, which was pushed forward against the pubes by the blood-clot in such a manner that the fundus rested on the top of the symphysis, was about double its normal size, and was

¹ The autopsy was very carefully made for me by Dr John Wyllie.

covered with lymph. In its interior a quantity of muco-pus was found, and a clot about the length and thickness of a number nine intra-uterine metallic pessary. The Fallopian tubes, though somewhat dilated, were otherwise normal, and contained neither pus nor blood. Other organs healthy.

From this rather circumstantial account of the case you will have perceived, I think, that it clearly illustrates three points.

1st, The class to which the hæmatocele belongs, as I have already pointed out ;

2d, The difficulties in accurately diagnosing a chronic hæmatocele ; and,

3d, Some points in the treatment of hæmatocèles generally.

With reference to the first point, it was clear to me at the autopsy that the hæmorrhage must have come from some part of the diseased ovary, though, owing to the lapse of time since the bleeding had taken place, the vessel or vessels which had given way could not be traced. The first escape of blood probably occurred at the time when the woman, after having travelled home by rail from the Infirmary in the end of July, imprudently exerted herself in going about and attending to her domestic duties the same day. The pain, at least, began then, though the history is somewhat incomplete, and the patient herself was never able to state accurately when she had first perceived the swelling in the side. Suffice it to say, that from the history I was able to obtain, the extravasation of blood must have gone on slowly, as the patient, though carefully interrogated, never mentioned any of the symptoms of the violent attack she must necessarily have had, if the whole of the large blood-clot we found at the autopsy had been formed suddenly.

On referring to the literature of the subject I am compelled to say that I have been able to find but meagre details. About half-a-dozen cases of non-encysted pelvic hæmatocele, arising from rupture of the ovary, are all that are on record, so far as I can find out, and in some of those cases the details cannot be procured by me. In none of them does it appear that there was a previous tumour of the ovary of a cystic nature. In one of the first, reported in *Hufeland's Journal* for 1819, a young woman, aged 21, died suddenly from sunstroke during a menstrual period. She had been in good health previously. On post-mortem examination the left ovary was found black, gangrenous, and half destroyed ; the right much inflamed, and adherent to the Fallopian tube, its vesicles filled with black coagulated blood. The uterine cavity contained some liquid blood, and there were two ounces of blood in the pelvic cavity.

Luton, in the *Gazette Médicale de Paris* for 1856, gives another interesting case, which I may abridge.

A washerwoman, æt. 27, was received into the St Louis Hospital for fungous ulcer of the cervix uteri, and symptoms apparently arising from it—viz., pains in the loins and iliac region, and continuous metrorrhagia for two months previous to her admission.

During the first fourteen days of her stay, she was cauterized twice, once with the actual cautery, and the second time with nitrate of silver, and with the best effects, so far as the ulcer was concerned. She was, however, suddenly seized, without any apparent cause, with fever, complete loss of appetite, and pain in the belly and loins, for which she was poulticed. The next day she was worse, and had violent pain on pressure, especially in the right side. Twelve leeches were applied. Hiccough and vomiting came on the same night, and the patient, sinking into a state of collapse, was dead in forty-eight hours from the commencement of the attack. At the autopsy, as soon as the abdomen was opened, it was discovered that there had been an extravasation of blood into the peritoneal cavity, and commencing peritonitis. In the pelvis more than a litre of black fluid blood, containing a few clots, was found. The peritoneum, covering the pelvic organs, had a layer of false membrane on it. Uterus normal.

The appendages were adherent together, and to the rectum by old plastic exudations easily ruptured. The two tubes presented signs of inflammation, and there were some small abscesses in them.

Left ovary soft and pliable, and seemed infiltrated with pus or plastic lymph. Right ovary more diseased, and difficult to isolate. On the side looking to the utero-rectal cul de sac, there was a small rupture, through which a large black, soft, blood-clot projected. It was covered by the fimbriated end of the Fallopian tube in such a manner as to give rise to the suspicion that the blood had come from it; but examination by Gubler and Charcot proved this not to be the case. On cutting the ovary into sections, a nucleus, which seemed to fill a Graafian follicle, was found; but the rest of the ovary was destroyed by inflammatory action.

Luton asks the question, Whether this hæmorrhage, at first parenchymatous and afterwards intraperitoneal, was primitive? or whether it depended on the old inflammatory action in the uterine appendages? He answers rather vaguely, that probably successive apoplexies of the ovary, under the influence of the menstrual molimen, might prove the starting-point of the inflammatory action which led to its rupture and to the intraperitoneal hæmorrhage.

Let me adduce here one other case bearing on this point. It was published as long ago as 1826, by M. Drecq, in the *Annales de la Médecine Physiologique*. The patient, æt. 32, fell into a state of collapse after having had one or two violent attacks of colic, but without any other apparent cause, and died in a few hours.

On opening the abdomen fifteen hours after death, three pints of black blood were found in the cavity. A large firm clot of blood was discovered covering the uterus, four handfuls of which were removed, when the uterus and right ovary were found of normal size; but the left was as large as a hen's egg, black, inflamed, and presenting a deep laceration, from which, by pressure, black blood was extruded.

I will not needlessly trouble you with the account given of other

cases similar to those I have just read. Such have been reported by Puech in his thesis on the subject, and by Neuman, though the minuter details of his case, published in the *Bibliothèque Médicale*, I have unfortunately been unable to obtain. The ovary, however, it is stated, was the seat of a large hydatid, and the death of the woman took place only a few days after the extravasation of the blood.

I am anxious, however, that you should clearly understand that I do not consider, as pelvic hæmatoceles—nor do I even wish to confine the term retro-uterine to—those cases alone in which the blood has become encysted by pelvic inflammatory action subsequent to its extravasation or collection. I am decidedly of opinion that such an artificial division of pelvic hæmatoceles is quite unnecessary, and that those cases are equally deserving of the name in which, as in the one I have reported, the fluid has formed a large non-encysted clot, extending from the pelvis into the abdominal cavity, provided the escape of the blood has originated from some disease or malformation in the uterus or its appendages. I consider, under these circumstances, that I am justified in giving to all such cases the name pelvic hæmatocele, even though the main part of the disease, apparently, be not confined to the pelvis. To the term peri-uterine hæmatocele I object, as being a bad compound.

Before leaving this part of my subject, I must point out to you more clearly how very different the case which I have read is from any of the other cases of non-encysted hæmatoceles on record. In all such, whether arising from rupture of the ovary or Fallopian tube, or from the giving way of one of the veins of the pampiniform plexus, the onset, progress, and termination of the disease have been so overwhelming and rapid as in almost every case to have given rise to the suspicion that the unfortunate sufferers had died from some form of poisoning. Voisin, in his very complete account of such cases, mentions that none of the patients lived over twelve hours. In my patient, the enormous blood-clot which lay free in the cavity of the abdomen had evidently been produced slowly, and had, as it accumulated and displaced the intestines, produced no peritonitis by which it could have been enclosed. In fact, so far as the signs and symptoms go, it ought to be included among the cases of encysted hæmatocele, and yet it was quite evident, at the post-mortem inspection, that such was not the case. On raising the abdominal walls, and throwing back the flaps, the blood-clot was exposed to view, lying on the lumbar and dorsal vertebræ, and on the muscles to their left, the intestines being pushed upwards, and to the opposite side. There were no traces of old lymph anywhere, except on the fundus uteri. The fact seems to be, that the clot was too large for encystment; but still, it is curious that there were no remains of the more remote inflammation which such a mass, lying for three months within the peritoneal cavity, must, we should suppose, necessarily have produced. In this respect the case is, so far as I can find out, unique.

I intend now to call your attention, for a few minutes, to the

second point which this case illustrates—I mean the difficulty in arriving at a correct diagnosis in “chronic hæmatoceles,”—especially in those hæmatoceles in which you have not had the opportunity of watching the patient from the commencement of the attack. If you have had such an opportunity, those must, indeed, be exceptional cases in which the diagnosis cannot be made certain by any experienced gynæcologist.

What, then, were the reasons which induced me to believe the case to be one of chronic pelvic peritonitis when the patient first entered the ward? By a brief recapitulation of the symptoms and signs, I may be enabled to show you that the diagnosis was at least justifiable. There were, on her admission, few symptoms of any great moment except the pain accompanying the acts of micturition and defecation—a symptom, of course, common to any tumours pressing on the viscera in question. The tumour itself occupied the same position as we might have seen had the affection been, as I supposed it to be, pelvic peritonitis. Indeed there is, at the present moment, in Ward XII. a patient with a swelling of an inflammatory nature—as evidenced by its having discharged pus through the uterus—whose contour, size, and position strongly resemble the blood-clot in Chalmers’s case. Under these circumstances, upon what are you to rely for the differential diagnosis? The history, it is said, will usually form a certain guide, but this cannot always be the case; for there was nothing in any part of the history our patient gave us which might not equally well have applied to pelvic inflammatory action. Such a history, in the case of a hæmatocele, undoubtedly points, as I have already mentioned to you, to a very slow extravasation or collection of the blood. The case, too, was somewhat anomalous in other respects, as it neither occurred during a monthly period—the woman being beyond the menstruating age—nor during the course of a metrorrhagia; nor were there any varicose veins in those parts of the patient’s person exposed to the eye to excite the suspicion of the rupture of one of the vessels of the pampiniform plexus. Indeed, had the case presented any of the leading features of hæmatoceles generally, the class to which it belonged could easily have been settled by a process of exclusion.

There are only three or four points of any moment which I think ought to have excited my suspicion as to the correctness of the diagnosis made in this case, and the first of these is the fact, that though the tumour had probably existed for nearly three months before the patient entered the ward, there was no appearance of the escape of pus through any of the ordinary channels by which it finds its way to the surface in inflammatory pelvic tumours generally, nor was there the slightest feeling of fluctuation in any part of the tumour itself. In most cases of pelvic peritonitis, matter will have formed, and probably have found an outlet within the time mentioned; but of course such a statement is by no means invariably correct, and could not always be relied on.

Another point which might have aided the diagnosis, perhaps, is this, that owing to the fact of the chronic *inflammatory* tumours being formed mainly by adhesions of the intestines, and pelvic and abdominal viscera together, the percussion-note over them is usually not so absolutely dull as I found it to be in the case of the non-encysted hæmatocele I have just read; and the third circumstance which might have arrested my attention, and led me to suspect the erroneous nature of the diagnosis, was the fact, that before the supervention of the general peritonitis which ultimately proved fatal, I could handle and press upon the tumour without exciting that degree of pain we were likely to have produced, had the swelling been formed by inflammatory action solely. The patient's general health, too, on her admission, was very fair, the tumour, as I have already frequently mentioned, producing few symptoms of any moment. Had chronic inflammation been going on for three months within the peritoneal cavity, surely most, if not all, of the sufferers would have presented more symptoms of prostration and greater hectic than Chalmers did. From what has been mentioned, you must have arrived at the conclusion that the points upon which we might be compelled to rely in the differential diagnosis of any similar case, are but weak ones, and that very grave doubts may often arise as to the exact nature of such tumours. True, you will but rarely have for treatment a case presenting so many anomalous symptoms and signs as Chalmers's did, and in which the history is likely to prove of so little value. Still, its peculiarities even teach us that an attentive consideration of every possible point tending to aid the diagnosis, is an imperative necessity in all the obscurer forms of pelvic swellings.

In conclusion, I have only to add a few words on one part of the treatment which was adopted; but before doing so, I must recall to your recollection that the original treatment proposed by Nelaton for hæmatoceles generally was their immediate evacuation by trocar or incision. This was undoubtedly a most dangerous proceeding, and its speedy abandonment proved it to have been found so; but in some cases, especially in a few which have been reported by Dr Duncan, in the *Edinburgh Medical Journal* for 1864, the evacuation of the extravasated blood after a time relieved many of the urgent symptoms, and led assuredly to a more rapid recovery of the patients. Was the incision which was made in this case justifiable? On looking at it from the light of a post-mortem examination, it certainly was not, as it could in no way have given relief to any of the more urgent symptoms; still, as the feeling of fluid in the recto-vaginal cul de sac was undoubted, and as this part of the blood-clot had softened and become purulent, it was perhaps, under the circumstances, not so very injudicious as the autopsy afterwards appeared to prove it to be. I can positively assert that it in no way contributed to hasten the fatal termination.

Much as I would have liked to have dwelt on this part of our topic, I feel that it would be unwarrantable in me if I trespassed longer

on your patience; and I only trust that the interest of the case, and the many points of difficulty attendant on its diagnosis and treatment, may have sufficiently condoned the far too lengthy nature of the communication.

ARTICLE III.—*The Climate of Madeira.* By W. W. IRELAND, M.D., Fisherrow.

(Continued from page 46.)

PART II.—VITAL STATISTICS AND EFFECTS OF CLIMATE UPON DISEASE.

As Madeira at its discovery in 1419 was uninhabited, it was at once peopled by Portuguese settlers; but many slaves were carried away from the African coast, who, in the course of time blending with the Portuguese, produced a race evidently a mixture of the European and African, principally Moorish, though in many cases European blood has remained almost pure.

According to Barral, the annual mortality is one in 39, or, more correctly, one in 38·9; in France it is one in 44·5; in England, one in 46; in Scotland, one in 49.

The people are more robust in the northern than in the southern side of the island, and stronger in the hills than on the coast. The manner of life of these islanders is simple. They are generally very poor, and live in great part upon fish and vegetable food, such as maize, wheat, potatoes, pumpkins, yams (*Colocassia esculenta*), sweet potatoes, and fruit. As usual in hot countries, the women begin to fade more early than with us; menstruation begins about the fifteenth year. The principal diseases, at least about Funchal, are acute and chronic hepatitis, rheumatism, scrofula, and continued fevers; cancer and apoplexy are also common, and indigestion among the upper classes. Bronchitis, pneumonia, and pleurisy, are not so rare among the poorer classes as might be expected from the mildness of the climate. *Lepra tuberculosa* occurs, especially amongst the poor peasants on the south-western coast of the island; it is regarded by the Portuguese physicians here as hereditary and not contagious. Elephantiasis Arabum is rare. Leprosy frequently ends by spreading to the trachea or bronchial tubes.

The cholera appeared here in 1856, and destroyed one-tenth of the inhabitants.

The question whether phthisis was frequent in Madeira has naturally created some interest. Dr Gourlay,¹ while believing that

¹ See his opinion cited by Barral, p. 172. Dr Gourlay's work is entitled "Observations on the Natural History, Climate, and Diseases of Madeira, during a period of eighteen years. By William Gourlay, Physician to the British Factory at Madeira." London, 1811.

the climate of Madeira was beneficial to strangers with chest complaints, stated his opinion that there was no affection more frequent among the natives of the island than phthisis, and that persons of all classes and both sexes became its victims, and sometimes whole families were destroyed by it. He also says that it was more rapid in its progress than phthisis in the colder parts of Europe. Dr Lund remarks, that auscultation was not known in the time of Dr Gourlay; nevertheless, it appears to me that Dr Gourlay understood perfectly well the nature and symptoms of phthisis. Incipient phthisis might no doubt escape the diagnosis of an experienced physician of the beginning of this century, but I cannot see how he could fail to distinguish nine out of ten of the matured disease from chronic bronchitis or pleurisy. Dr Renton writes, "With respect to the question relative to the frequency of consumption among the natives, Dr Gourlay, if he alluded to tubercular disease" (which he did), "has greatly overrated it."

Dr Heineken was of the same opinion as Dr Renton. Dr Lund gives none of his own, but apparently endorses that of Mr White, "that scrofula and consumption occur among the natives of Madeira, but less frequently than in more changeable climates." Dr Dyster remarks, with regard to the frequency of phthisis among the Portuguese, "I am disposed to believe it greater than Dr Renton supposed." He believed that this was owing to the increased poverty of the people, to hard work, scanty food, insufficient clothing, damp windowless houses in the mountains, and dark dirty ones in the towns.

Speaking of Madeira, Dr Mason remarks, "that consumption and scrofula are frequent there, and few places will be found where the system is more liable to disorder; whilst I suspect that the average duration of life is inferior to that of our own country. Dr Bowie also, a lamented friend who has ceased from among us, thus wrote to me¹ but a short time before he proved in himself the inability of the Madeira climate to check the progress of consumption, 'Phthisis is frequently met with amongst the natives of Madeira, who are, generally speaking, a highly scrofulous community.'" Some statistical details, got up by Dr Pitta, a Portuguese physician in Madeira, with the view of proving consumption rare in the hospital at Funchal, have been very properly rejected by Dr Mittermayer and Dr Schultze as "unzuverlässig." Among twenty-eight bodies of natives which Dr Mittermayer² dissected at Madeira, the half of them had tubercle in the lungs. In two of these fourteen the disease had healed, in five it was in progress with other diseases, in seven it was the cause of death. Unfortunately, there are not trustworthy statistics on which this question could be decided. Owing to the extreme poverty of the inhabitants, hundreds of people die without being seen by a regular practitioner; and we are convinced from our own

¹ Dr Cotton on Consumption, 1858, pp. 244, 245.

² Dr Schultze, *op. cit.*, p. 118.

trials that, as the influx of visitors from the north is a source of wealth to the inhabitants, it would be impossible to collect statistics tending to throw discredit upon the sanatory fame of the island. Such was evidently the opinion of the Portuguese Dr Barral. "We can certify," says he, "from our own experience, that positive and satisfactory data are not easily obtained, even by those who are more happily situated for making them." From the information he actually got from Portuguese practitioners in Funchal, he believed that the disease "is not rare (*não é rara*), but there were fewer cases than in other countries." Dissatisfied with the vagueness of such information, he compares the number of hospital admissions in Funchal with those in Lisbon. The mortality from phthisis was about 1 in 24; but the number of admissions does not bear a regular proportion each year as at Lisbon, but doubles or nearly trebles in alternate years.

It has been argued that phthisis must be rare here, since only ninety-seven invalids tried to gain admission into the Consumption Hospital and that of Misericórdia in two years. Yet I question whether there were more than a dozen of applications to the Dumfries and Galloway Royal Infirmary during the seven or eight winter months I was house-surgeon, the cause being the same both in Galloway and Madeira—the dislike of the people to enter an hospital; and yet no one can assert that phthisis is rare in the counties of Dumfries, Kirkeudbright, and Selkirkshire, which have a population considerably greater than Madeira.

As far as my own inquiries go, I believe that phthisis and scrofula are common at Funchal, and that their ravages are by no means confined to the poorer classes. Dr Schultze expresses a similar opinion. It is quite possible that the climate of a place may be favourable to strangers suffering from diseases to which the inhabitants are themselves liable; nevertheless, few will be disposed to think that this discussion has no bearing upon the subject.

A due regard to space prevents me either reproducing or analyzing the statistics which have been published upon Madeira. Those of Renton and Lund are much more favourable than the cases of the patients sent out from the Brompton Hospital.

Disposed to set a high value upon the climate of Madeira, I imagined, ere I resided there, that the difficulty of procuring exercise upon horseback, or the assumed impossibility of walking about under a powerful sun, accounted for the unfortunate result of the Brompton experiment; but the truth is, the climate will very well allow of a sufficient amount of exercise being taken on foot in the morning and evening, and that the cloudiness of the sky very much and very often interferes with the power of the sun during the day. These patients were treated with great care and kindness, and everything was done to please and comfort them. It was also objected that the cases were of too advanced a character; yet Dr Lund claims five cases where the disease was arrested, and two

much ameliorated out of twenty-four in the second stage; and Dr Schultze expressly says (p. 136) that the merits of a climate must rest upon the number of open vomicae it brings to calcify or cicatrize, and the number of cases of softening it causes permanently to improve. As the results of all the statistics collected by him, Dr Schultze claims for Madeira that, out of every five cases of phthisis in the second stage, three have found an enduring improvement (*eine andauernde Besserung fanden*), and believes, too, that, with better care and treatment, we might have four cases of healing out of five. So that, instead of the Brompton Hospital patients returning as they did,¹ sixteen, or at least twelve, should have come back with the disease arrested.

In treating disease, every man sets out with some theory or other, and there are two methods of viewing phthisis which ought to be present to our minds. The old view was, that phthisis was an inflammation of a low or scrofulous character, which ought to be combated by cautious antiphlogistic measures, such as small bleedings, and that it was a disease of cold countries apt to be provoked by catarrh and pleurisy. Exposure to cold was, above all things, to be guarded against. "The most important measure that can be advised," writes Professor Alison as late as 1844, "in cases of threatened, suspected, or incipient phthisis, is a change of climate, either to the south of Europe or Madeira, or strict confinement within doors, in an artificial climate as near as possible to 60° of Fahrenheit, during at least six months of the year in Britain." This view is still the favoured one with patients themselves. Admitting that they have "a delicate chest," they are fond of considering the malady as simply a succession of fresh colds, and shut themselves up more and more the worse they get. It is often the duty of the physician to insist on the necessity of greater exposure rather than of greater care. The present view of phthisis is, that it is a constitutional disease affecting the functions of assimilation, the result of a depressed state of health, and frequently caused by heated air, close rooms, and sedentary occupations. It has been proved by statistics that it is more than twice as common in Marseilles, Gibraltar, and Malta, than in Stockholm, Berlin, or even than in London, and that it is very rare in Iceland, which is perhaps owing to the fishy and oleaginous diet of the inhabitants. It is some confirmation of this view that the Acadians, who live at the mouth of the St Lawrence, subsisting in great part upon the cod, are, according to M. Landry, almost entirely exempt from phthisis. In this disease the influence of diet is of greater importance than the influence of climate.

Phthisis is undoubtedly rare in Canada, and in India, both with

¹ The result is thus given by Dr Thorowgood in his able little treatise on the Climatic Treatment of Consumption, London. 1868, p. 4. "Two of the twenty returned improved, seven were slightly improved, twelve were no better and no worse, five were made worse, and one died."

Europeans and natives ; and the reports of the mortality in the jails show it to be much less frequent and less deadly in the more bracing regions of the Punjab than in the plains of Lower Bengal, where the climate is much more equable and humid.

To restore the health and vigour of the body by tonic and bracing regimen is regarded as the first indication. The patient is directed in standard text-books rather to walk out in the snow and the rain than to want adequate exercise. The assumed necessity of venturing out only in fine weather, and "often with a respirator," is regarded as a mere delusion ; and it has been proved that phthisical invalids bear well the dry cold of Canada and Minnesota.

It is not capable of dispute, that, since the adoption of such views, the duration of phthisis has been prolonged, and the number of recoveries has become greater.

The supposed necessity of an equable temperature dominated the minds both of the friends and assailants of the Madeira climate. Around this all facts were grouped, and with this all objections were answered. Dr Renton accounted for the loss of many of his cases by their ascending to the heights and breathing air ten degrees colder than at Funchal, and thus deranging the equability of the climate. Dr Lund witnessed "in cases very recently landed, and where the physical signs have been exceedingly slight, rapid and extensive tubercular deposit ensue in the lungs from excesses, combined with imprudent exposure to the midnight air. Slight catarrh has come on, and this fixed irritation has appeared to be all that was necessary to cause a rapid accumulation of the deposit in the lungs." Nevertheless, the difference of temperature between the midnight air and that during the day is seldom marked, especially to those recently arrived ; and though it seems reasonable to admit that inflammation favours the deposit of tubercle, it is scarcely fair to insist upon slight catarrh as the cause of rapid tubercular exudation, instead of its necessary accompaniment. This is a favourite method of reasoning in Madeira ; yet, though I always cautioned my patients against exposure to night air, and especially to draughts, I never observed those who took what was called "great care of themselves," get on better than other people sometimes the reverse.

Even those who attacked Madeira like Dr Burgess tried to deny the equability of the climate. It appears to me from actual experience, that warm air, even at nearly the same temperature, has a relaxing effect upon the frame, diminishes the appetite, and depresses the spirits. Dr Combe, whose favourable opinion on Madeira is so often cited, remarks :—"The climate is somewhat relaxing from its humidity and equable temperature, and in summer must be so to a still greater degree." My experience in India, especially at Kussouli, has convinced me that patients do not recover well during an equable temperature, and that a considerable range during the day and night is of advantage to most constitutions. Dr E. Smith, in his thoughtful work called "Cyclical Changes," has

pointed out with great clearness the effects of those variations of temperature which we call seasons, and their influence in keeping up the balance of vital forces, actions, and reactions necessary to health; and though it is no doubt true that sick people must often be guarded against what would do them good in ordinary health, even in pulmonary complaints, the advantage of equability of temperature has been much overrated. "Theoretically speaking," says Dr Walshe,¹ "steadiness of temperature from day to day, with but slight nocturnal fall of the thermometer, ranks as a very important condition; but practically it turns out to be comparatively insignificant. For those climes, Egypt and Australia, which furnish from time to time the most striking examples of arrest of phthisis in individuals of the Saxon and Celtic races of North Europe, are glaringly deficient in this element of theoretical success." It can scarcely fail to strike a close observer how readily an unusual, though apparently insignificant, variation of the thermometer, especially if accompanied by wind, causes colds and rheumatisms amongst those who have been some time in Funchal. This has already been noticed by Dr A. Combe in Madeira; and the same remark has been made by A. Von Humboldt, in a similarly equable climate in South America. There is no question that moisture adds to the debilitating effects of heat, that hot and dry climates are much more favourable to the development of the human frame, especially of the Aryan and Semitic races, than where an equal or even inferior degree of heat is conjoined with moisture, and this independently of the action of paludal miasmata. I have seen the enervating effects of the addition of moisture to heat very well exemplified in actual field-service in India. Dry heat is much better borne than moist heat, and the reaction during the night is much greater. Amongst the invalids at Madeira the driest weather is the most healthy; those heavy days, loaded with five to seven grains of moisture to the square foot, where the wet and dry bulbs of the thermometer sometimes indicate absolute saturation, are depressing both to the health and spirits of the invalids. The extremes of moisture generally occur in rainy weather, which is common, especially in January, November, and December. The clouds swaying from the south-west are arrested by the hills above the Mount Church. The mist descends lower and lower, and is frequently accompanied by rain. The sky at Funchal is much more frequently overcast with clouds than in any southern climate in which I have lived, though the winter of 1868-9 was an unusually dry one.

Since 1852, when the grape disease appeared, the vines have been replaced by sugar-canes, which require to be watered much more frequently. Every drop of rain is made to flow into the *levadas* or aqueducts, hoarded up in the tanks, and distributed at regular intervals by a capillary network of channels and gutters to

¹ Diseases of the Lungs, 1860, p. 588.

the cane plantations, which cover the whole basin of Funchal. On every side the *quintas* are surrounded by acres of sugar-canes, even the gardens in the town are full of them. This form of cultivation is very remunerative, owing to a protective duty upon foreign sugar; and as long as the duty is maintained it will not readily be abandoned, round about Funchal, where the system of irrigation is more perfect than in the neighbouring hills, upon whose slopes the vine is beginning to reappear. It is perfectly clear that this irrigation must have increased the humidity of the air, especially in the suburbs of Funchal; and some old residents are disposed to attribute the decline of the place to the substitution of the sugar-canes for the vine. A form of low fever, occurring in March and April after they are cut down, is said to be commoner than formerly; it is probably of miasmatic origin. Intermittent fever is not often met with in Funchal. It may admit of question whether irrigated soil be a cause of phthisis, like ordinary impervious and wet soil; but certainly any sagacious medical man would remove these cane-brakes if he could.

I shall give my opinion on the merits of the climate of Funchal as briefly as possible.

The main reasons of my leaving it were that it did not agree with my health, that the place was evidently declining, and that I could not, as I had hoped, take up my pen to write in favour of it, and endeavour to attract patients to it. Nevertheless, some good may result from my attempting to point out the cases that suit it and those that do not. Had I stayed longer than one season I might have been better able to do so; though it was clear to me, that a physician cannot successfully practise in a sanatorium upon whose merits he looks coldly, and to which he cannot advise his patients to return the next winter. Invalids require to be fed upon hopes—false ones, if no better can be had; and sordid interests when offended are madly evil spoken.

The ordinary effect following upon a stay at Funchal is a considerable diminution of appetite and physical energy. Diarrhœa is frequent with new comers; in general it is easily treated; but occasionally, especially in advanced cases of phthisis, it helps powerfully to accelerate the fatal issue. In one case of bronchitis and emphysema it did much harm, without the chest affection being benefited. The liver also is apt to get out of order.

The children of British residents here are in general feeble and anæmic, but the mild climate seems to do well with old people.

Most of the advocates of Madeira wish phthisical invalids to be sent as early as possible; but consulting physicians are now, as may be imagined, very chary of so doing. Dr Lund stated the ordinary duration of phthisis in England to be from eighteen to twenty-four months. Is this true of the wealthier classes? The great proportion of invalids who reach Funchal are cases of three or four years' duration. Nevertheless, incipient cases occasionally do

well here, though there is no proof that they do better than in England. Cod-liver oil is a much more powerful remedy than the air of Funchal, and it is always a question which is to be preferred; for cod-liver oil can only be taken in much smaller quantities in Madeira, and is more apt to derange the appetite—often it cannot be taken at all.

I was once called to diagnose the case of a young lady who accompanied her father (who was suffering from phthisis, though not in an advanced case) to the island, where she had now lived two years. Her mother had died of the same disease, and she had suffered from ptoorrhœa, otherwise she was a fine well-grown girl. Her father was perfectly sure that she had no consumption on landing, and for a year after; nevertheless, she had now been ill for a year, and had a cavity of considerable size on the apex of the left lung.

I saw another case of phthisis, in which I traced the deposition of tubercle from the beginning. Under the depressing influence of affliction it went on with more than ordinary rapidity. There was another case of phthisis in a resident—I believe it was hereditary on the father's side;¹ and I myself treated two cases of *ophthalmia tarsi*, where the scrofulous diathesis was strongly marked in two young people of English parents born and brought up at Funchal. In these cases there was no hereditary transmission. I had authentic accounts of several other cases of phthisis, some hereditary, others not, which began and ran to a fatal termination amongst the English residents at Funchal, though I fancy nobody ever took the trouble to publish them. I have not observed any cases of phthisis in Funchal last winter where there was anything like clear evidence that the disease was arrested, and few cases of improvement. In some patients under my care, the deposition of tubercle went on with considerable rapidity. It seemed to me that the clinical history of the case, borne from the south of France or the south of England, or elsewhere, was not altered or modified to any remarkable degree; rapid cases went on rapidly—slow cases slowly. Hæmoptysis is common in Madeira. This was the subject of universal remark. It may be owing to people retaining a stimulating and highly animalized diet in a semi-tropical climate.

The silly habit of weighing patients is kept up at the hotels, and leads to over-eating and crapulous diarrhœa, especially a few days before the weighing day. When they get lighter, they step down from the weighing-board with very long faces; if they are improving, they know it already.

In the hotels there are every comfort and necessary for an invalid. The objection to them is the gloomy tone produced by so many sick people living together, many of them harping and discontented to the last degree; the fatiguing length of the table-d'hôtes; and the

¹ The fact of hereditary transmission is merely given in order to state the case as fairly as possible without laying any more stress upon it than Dr Walshe or Dr E. Smith are disposed to do.

situation of the houses, in the heart of Funchal.¹ The rents of the *quintas* are much fallen of late; and good Portuguese servants are easy to be had.

The best cases for Funchal are advanced cases, where the mucous membrane is highly irritable, or where cavities have already formed. The soft equable humid air acts in a soothing manner upon the diseased and ulcerated surfaces. They do not miss cool and bracing air, because such air they could not have borne. I have sometimes been astonished to see a patient complaining of very little uneasiness, and, on putting my stethoscope to the chest, to find it full of moist râles. Even supposing they do not prolong their existence, they close it with much less suffering than during the winter in Great Britain.

There is little doubt that Teneriffe is a less relaxing climate than Funchal; and if there were a good boarding-house at a considerable elevation, it would be useful for some cases; but at present there is poor accommodation, bad food, and, owing to the very strict quarantine, patients sent from England are often forced to go on to Sierra Leone, where they have a chance of adding yellow fever and liver disease to the complaints they already bring with them.

These vague speculations about a dry climate being good for one with copious expectoration, a moist one for those with dry tubular breathing, as well as generalizations about the *strictum* and the *laxum*, are often delusive guides.

I have seen several old cases of cure at Funchal. In all, the patients belonged to the nervous temperament, and were fond of heat. Two of them assured me that cold depressed their spirits and impaired their appetite. One case of seven years' duration was always worst during the coldest weather. I have seen other advanced cases where there is reason to believe that the climate prolonged their existence. Some people who had been at Algiers preferred Madeira, others the reverse. The absence of dust and malaria is in favour of Funchal. Algiers is more bracing, fitter for early cases. Egypt is a quite different climate, apparently much superior to both.

Although I have spent three winters and two summers in the south of France, I feel considerable hesitation in making any comparative appreciation of places of winter resort. The subject, besides, is too wide and too serious to be discussed in a few sentences. Possibly, it would be well for those recommended to seek a milder climate in the winter, to resort in the first case to a dry and bracing one; and if convinced, by rigorous experience, that an increased temperature is desirable, to try the effect of an intermediate climate like Corsica or Malaga; some distance from the sea probably would be an advantage. If the invalid possesses, which unhappily few invalids do, the power of observing carefully and reasoning correctly on his own case and constitution, the knowledge so gained may save

¹ Holloway's Hotel is out of Funchal, and well situated to one who can afford conveyance, being on the slope of a steep hill.

him from the tentative recommendations of consulting physicians, which, it must be confessed, are not always justified by experience. He ought also, if going by their advice or consent, especially if a foreign residence is likely to prove a strain on his pecuniary resources, to obtain some definite opinion as to the amount of benefit to be expected. If this were kept in view, many bitter disappointments would be avoided.

Little need be said about a summer residence in Madeira. Few invalids are disposed to stay long in a place where the sources of amusement are so limited; and those who have been there in the winter may form some opinion, or get some information bearing upon their own case. The climate in the hills, to which invalids resort, is much of the same character as what is met with in the winter at Funchal; otherwise, I do not care about reproducing information which I cannot check by my own experience. The opinion of invalids is little to be trusted. They almost always judge everything from their own cases. A good many invalids stayed over the summer of 1868, but apparently with little profit. Very few are staying this summer.

A very large proportion of cases coming to Madeira are phthisical; nevertheless, such are not the cases likely to do the climate most credit. Among those suited for its soft and equable air are inflammatory diseases of the larynx and trachea, where relaxation is not a prominent symptom; chronic bronchitis, slow recoveries from pneumonia, cirrhosis, and gangrene of the lungs. Some celebrated Madeira cures have been cases of these two last complaints. Scrofula and rheumatism may not be expected to do well; and the habit of persuading patients returning to England from the coast of Africa with intermittent or remittent fevers, dysentery, and, worst of all, liver disease, to land and stay at Funchal, is most objectionable. Such cases do best in England—in Madeira they fall back or make slow recoveries.

I at first believed that Madeira might be made a place of resort for cases of chronic Bright's disease. The proportion of admissions of Bright's disease of the kidneys (*néphrite albumineuse*) was roughly computed by a Portuguese physician as one to every eighty in the hospital at Funchal. This is a proportion much higher than what is met with anywhere in India. The ratio of admissions in 1867 for the European Bengal Army¹ was less than one in a thousand, and even this small proportion was never reached either in the jails or in the native army; the highest being in the Punjab frontier force, where there were ten hospital admissions and no deaths to 12,661 admissions, on a strength of 10,000. In Central India, Bengal, and Assam forces, there were no admissions at all to a strength of above 13,000. In the course of my small practice at Funchal, I have seen one case of waxy kidney and one of albu-

¹ Annual Returns of the European and Native Armies of the Jail Population of the Bengal Presidency for 1867, compiled by Dr Bryden.

minuria. If it is thought desirable to relieve the kidneys by increasing the action of the skin, a dry as well as a warm air will be found best to answer this indication. And although it is proved that a high temperature saturated with moisture, by checking the exhalation of vapour from the lungs, induces copious perspiration, this effect is not increased in any sensible degree, according to Mr Edwards,¹ till the temperature rises above 68°. There is thus no warrant, either theoretical or practical, for sending patients to a moist climate with a temperature below 68° like Madeira. If benefit is to be got from a change of climate, it must be got from a hot country like India, or, perhaps better still, a dry and hot country like Upper Egypt or Peru.

Pluming themselves upon the favourable verdicts of physicians of a bygone generation, when our views on the nature and effects of climate upon disease were more unripe than at present, the advocates of Madeira have tried to allure to its distant shores all cases of phthisis, and other chest complaints, not to mention several other disorders, especially bidding for those cases which are still in the earlier and more curable stages. Such claims have now been rejected by the best of the medical profession, and have not been sustained by the voice of the non-medical public. Continually praised, scarcely ever attacked, the climate of Madeira is still sinking in reputation; and as long as it is cried up as a mere "health resort," it will probably continue to sink. In trying to the best of his power to distinguish those cases which may be expected to derive benefit from its climate, and to keep away all other cases, the physician is trying to perform at once a service to mankind and to those interested in the prosperity of Funchal,—a service, nevertheless, which he must perform without any hope of gratitude or reward, save the pleasure attending the finding and telling of the truth, and the endeavour to save human life.

ARTICLE IV.—*Amputation of the Scapula, along with Two-thirds of the Clavicle and the Remains of the Arm.* By PATRICK HERON WATSON, M.D., F.R.S., F.R.C.S.E.; Lecturer on Surgery, Royal College of Surgeons; Surgeon to the Royal Infirmary and Chalmers Hospital.

(Read before the Medico-Chirurgical Society of Edinburgh, 7th July 1869.)

SINCE the famous case of Samuel Wood the miller, related by Cheselden in his work upon Anatomy,² and thus rendered classical in

¹ Quoted by Dr Mason, *op. cit.*, p. 140.

² The Anatomy of the Human Body, by W. Cheselden. The 7th edition, with 40 copperplates, engraved by Ger. Vandergucht. 1750. Tab. xxxviii. p. 321.

common with the injuries of the upper extremity, no one acquainted with the written history of surgery was likely to doubt that the entire scapula, together with the arm, might be removed without much difficulty or loss of blood, or that the resulting wound would do otherwise than heal quickly and soundly.¹ The opportunities for imitating the amputations of accident were alone wanting to render such a mutilation quite as much an established and legitimate proceeding in surgery as amputation at the shoulder or hip joints. The operation of amputation of the scapula, clavicle, and arm, is one therefore important simply on account of the magnitude of the parts sacrificed, and interesting on account of the rare occurrence of such a combination of circumstances as to warrant its performance.

The nature of the circumstances combined in any case which demand such an operation, seems in fact the matter chiefly worthy of consideration, and may thus render interesting the example I am about to relate, as tending to add to the evidence which has already been adduced, but only in a scattered form, upon this subject of primary amputation of the scapula.

In alluding to the famous cases of Cumming and of Gætani Bey, who first performed this wholesale removal of the upper extremity on account of gunshot fracture of the scapula, Sir William Ferguson most justly remarks:—"I must say, however, that I can scarcely imagine any case of compound fracture of the scapula where removal of the whole of that bone would be justifiable as a primary proceeding."² To this remark I most cordially adhibit my concurring testimony. When attached to the surgical hospital above Balaclava, I had the opportunity of seeing several cases of fracture of the scapula from grape-shot. I recollect one case in particular where the shot was lodged beneath the scapula, from which position it was extracted by incision about a month after the infliction of the injury. In this instance the whole of the bone was extensively comminuted, its processes alone remaining intact. In spite of this extent of injury, the fragments in great part retained their vitality, and, although the discharge was for a time both copious and exhausting, the part consolidated, and the patient recovered with the loss of scarcely any bone. I have also seen the head of the humerus, the coracoid process, and glenoid surface, so injured by a conical ball as to require excision of the head of the humerus and the extraction of the primary fragments of the scapula. I have never, however, met with any case of gunshot injury of the scapula which would have justified the complete removal of the bone, either alone or along with the upper extremity. The scapula, I imagine, on account of the thin and parchment-like character of its body, excepting in the situation of the spine, and of the processes of the bone, seems, however much smashed it may appear at first, like the

¹ Excision of the Scapula, by James Syme, F.R.S.E., 1864.

² Practical Surgery, 4th edition, p. 337.

superior maxilla, to suffer little ultimate damage from severe gunshot wounds.

In the case of gunshot injuries of bones, as in all compound fractures, the condition of the soft parts, but especially of the skin, bloodvessels, and nerves, determines the propriety of amputation much more than the state of the bone itself. This practical rule is constantly exemplified in hospital practice, and holds good even more strongly in the upper than in the lower extremity. So long as a useless flail-like limb will not of necessity result from the extent of injury inflicted upon the bone, no one, on account of the extent of injury done to the bone alone, would decide that the extremity should at once be sacrificed by primary amputation. Where, on the other hand, in a compound fracture of one of the extremities, the bloodvessels and nerves have sustained so serious a damage as to render the parts beyond either practically deprived of vitality, or at all events destitute of their proper innervation, and certainly useless, there can be no propriety, whether the bone were hurt or not, in attempting to save such a limb. If any injury to the bone coexisted, the risks to life would certainly be increased, but not the necessity for amputation, although thereby the propriety of such a measure would certainly be made more apparent.

The extensive destruction of the cutaneous tissues leaving such a gap as could be atoned for by no cicatricial contraction, forms in many cases of accident a scarcely less claimant cause of amputation. If the cutaneous tissues alone have been removed, and no other cause requiring removal of the limb coexists, the best period for operating may be doubtful, as we see in cases of severe and extensive burns destroying the tissues in the higher degrees. In such circumstances, or where the skin has been removed by avulsion, the parts beneath being either uninjured, or the depth to which the burn has involved the soft parts being a matter of uncertainty, we should be very much inclined to counsel delay. Wonderful restorations have sometimes been obtained by careful treatment in such cases, while in others, although a period of unavailing suffering and exhaustion has been endured, the ultimate loss of the limb is probably less a matter of regret to the patient and his friends than if no such delay had occurred.

In many cases, again, while the degree of destruction of parts, soft and hard, demands that some operative interference should be at once adopted, the extensive destruction of the skin alone determines the extent of parts to be removed in order that a sound cicatrix may result.

The following case may serve among other things as a practical illustration of the axiom, that in primary amputation a sufficient amount of hard parts should always be removed to permit the process of cicatrization, when complete, to afford a sound stump:—

pulsating up to almost its fusiform extremity. The whole of the deltoid region, the entire axilla, one-half of the pectoral region, and more than one-half of the clavicle and dorsum scapula, were exposed as in a superficial dissection of the muscles and fascia, entirely denuded of all cutaneous covering. The skin corresponding to these bared parts hung behind like a rag fenestrated with openings made by the teeth of the wheels. The aperture in the skin through which the remains of the arm protruded resembled the arm-hole of a vest, while the sound skin around this cutaneous aperture was so detached from its subjacent adhesions that the finger could be slipped beneath it for fully an inch all round. This detachment of the untorn skin diminished the likelihood of its retaining its vitality. To leave the stump of the arm as it was, was out of the question. To amputate at the shoulder-joint was to make things no better than they were. There was in fact no means by which a sound cicatrix could possibly be obtained, except by amputation of the scapula together with the clavicle and the fragment of the arm. Having placed the patient deeply under the influence of chloroform, I proceeded to operate. The patient, in the first instance, was laid upon his side so as to expose the dorsal aspect of the scapula. With a short ampu-

Fig. 2.



A A, Line of torn integument. *B*, Nerves. *C*, Artery. *D*, Artery and vein where cut through. *E*, Cut margin of pectoralis major. *F*, Inferior angle of scapula. *G*, Superior angle. *H*, Cut end of clavicle. *J*, Cut end of clavicle.

tating-knife I made an incision through the centre of the cutaneous opening as far as the posterior costa of the scapula, and with a sweep

of the knife upwards and downwards, while the cutaneous flaps were held back, exposed the whole *dorsum scapulæ*. Laying hold of the bone by its inferior angles, a single incision severed a portion of the trapezius, the rhomboids, and the levator anguli scapulæ. The superior angle thus exposed was drawn downwards and outwards, and the remains of the trapezius, with the other soft attachments of the upper costa, were at once divided. The trunks and branches of the posterior scapular and supra-scapular arteries were now secured. Lastly, the serratus magnus was cut away from its insertion into the under surface of the vertebral costa of the scapula.

The remaining vessels which bled were secured as before. The patient was now laid on his back, and the skin divided along the clavicle, from which the muscles were detached by slipping the point of the knife along the upper and lower margins. Dividing the clavicle with the saw, just external to the costo-clavicular ligaments, I cut through the pectoralis, major and minor, and, clearing the axillary vessels, gave them to an assistant. And now, on laying hold of the scapula and arm, and drawing them outwards, a few touches of the knife enabled me to clear the remaining attachments of the bones above, so as to complete the separation with a single sweep of the blade towards the axilla. The axillary artery, the acromial and pectoral branches, were at once secured, and all bleeding ceased. There were upwards of twenty vessels tied in all, but certainly not more than two ounces of blood was lost during the operation. The ligatures employed had been previously prepared by soakage in a strong carbolic acid solution. The wound was now washed out with a similar but weaker solution of the acid in water (1 to 40). The horizontal incisions were united by wire sutures, and the anterior and posterior margins of the oval opening were brought together with a strain, by means of six points of interrupted suture. The whole cutaneous surface was again completely cleansed with the carbolic acid lotion, and covered with a plaster composed of one part of carbolic acid to seven of the emplastrum saponis spread upon lint. This was laid so as to adhere smoothly and closely to the surface for six inches in every direction beyond the divided parts, to the complete exclusion of air. The patient was now conveyed to bed, laid among blankets, surrounded with hot-water bottles, and ordered champagne and brandy, together with beef-tea or milk, as circumstances might direct. These were to be given in small quantities, and frequently, so as to diminish the risks of vomiting.

Vespere.—There has been a good deal of vomiting from the effect of the chloroform. There has been neither bleeding nor oozing, though there is obviously fluid contained beneath the plaster. The pulse at the wrist is 117. He is warm and comfortable. To have ice, and to continue the soup and wine.

28th March, Sunday, 2d day.—He slept seven hours during

the night, waking only once during that time. He complains of very little pain. Pulse 120. The dressing remains firmly *in situ*.

Vespere.—Sickness quite gone.

29th March, 3d day.—Slept well all night, waking occasionally for a drink. He has taken a bottle of champagne, and ten ounces of brandy during the twenty-four hours. Carbolic plaster removed. A large quantity of sero-sanguinolent sanies escaped. There was neither sloughing of the skin nor fœtor from the discharge. A new plaster was instantaneously substituted for the one which was removed.

30th March, 4th day.—Passed a good night. Complains of no uneasiness. Pulse 110. Breathing regular and normal, though a little hastened. There is a copious discharge of an adhesive and lumpy mucus-like secretion, mingled with turbid serosity. Plastered as before.

1st April, 6th day.—Appetite improving, had steak to dinner, and still continues to take stimulants very freely. Discharge as before on changing the plaster, but more uniform and smooth in character.

3d April, 8th day.—Complains of pain in the site of wound. Some of the stitches were found to have cut their way out. Discharge more purulent in its aspect, and more copious. Plaster changed as before.

10th April, 15th day.—To-day, the whole extent of the wound, except the transverse incisions, was gaping; there was a copious secretion of healthy pus, without fœtor, but possessed of a mawkish animal odour. The sutures were all removed, and the carbolic paste dressing continued.

12th April, 17th day.—The edges of the wound, and the incisions as well, are widely separated. The discharge is purulent and copious, coming from the whole exposed granulating surface, and from beneath the flaps of skin which have not united to the parts beneath. The wound strapped with carbolized plaster; the paste dressing continued. The patient continues to sleep and eat well, but he has lost his healthy look, and is emaciated, pale and pasty, sweating at night, and feeling very feeble. To have a quinine and acid mixture and Dublin stout substituted for part of his brandy.

18th April, 23d day.—Wound has been dressed as before described. The whole exposed surface is a healthy granulating one. The secretion of pus is as copious as before. The patient is much in the same condition as at last report. The carbolized dressings to be abandoned. The surface dressed with the sulphate of zinc lotion.

25th April, 30th day.—Greatly improved in every respect; the granulating surface is diminishing, and a cicatricial pellicle is ad-

vancing from the margins. The patient has been once out of bed since last report.

30th April, 35th day.—Granulating surface rapidly healing. To be pencilled with the solid nitrate of silver, and dressed with dry lint, covered with gutta-percha tissue. This dressing to be repeated only every third day. The boy is in much better health; sweating has ceased; all signs of emaciation gone; his appetite natural; he is in good heart and spirits. To have the Dublin stout; wine to be stopped.

17th May, 50th day.—Wound almost healed. Patient up all day, and walking out of doors. He has become quite fat and puffy. To stop all his stimulants. Continue dressing of dry lint.

20th May, 53d day.—The whole surface with which the carbolic paste came in contact has a tender eczematous aspect. The granulating surface which remains is the size of a fourpenny-bit. To dress the tender surface with the oxide of zinc ointment.

9th June, 73d day.—The whole surface is absolutely whole.

11th June.—Dismissed cured.

This patient was 74 days under treatment; but throughout the whole of that period had no symptom calculated to excite anxiety as to his ultimate recovery. For nearly three weeks the discharge was copious, and undoubtedly purulent, and the usual effect of this continued drain, in the form of emaciation and anæmia, was markedly observed. The carbolized dressings were employed carefully, and daily applied by myself or house-surgeon up to the 18th of April (twenty-two days), by which date the cutaneous flaps were adherent to the parts beneath. A large exposed granulating surface, corresponding to the axilla, remained, however, unhealed. It presented a weak and flabby appearance, which was apparently unaffected for good by the continuance of the carbolic acid application. During the whole of this period there was, however, no fœtor arising from the discharge, which was excluded from the action of the air by being covered by the carbolic paste. Any of the secretion which escaped from beneath the paste, and soaked the nest of carded tow upon which the left side was supported when the patient was lying in bed, became more or less tainted in the intervals of twenty-four hours, between the periods at which the dressing and tow were removed. The secretion from the raw surface had at first the aspect of sticky mucus, like that secreted from the bronchi. I have observed this in every instance where carbolized non-absorbent dressings are employed. The examination of this mucus-like secretion by means of the microscope, has uniformly shown it to consist of pus-corpuscles in a clear granular fluid. I have observed very much the same appearance in the instance of sores which, through a misapprehension on the part of the patient, have been dressed with the gutta-percha or oil-silk placed next to the skin, or where a cabbage-blade or docken leaf has been used as an application.

In other cases, where the dressing has consisted of oil and carbolic acid, applied by means of lint, the carbolic acid has a transforming influence on the corpuscles, rendering them angular and shrivelled, while the globules of oil sometimes obscure the field



Fig. 3.

in such a degree as to render the recognition of any corpuscular elements impossible, until ether has been added to effect their removal.

I have employed carbolic dressing according to the strictest methods of antisepticism in a very large number of cases of operation, using it in this way in manipulations and incisions when its

use was restricted by others to its application as a putty to the occlusion of chronic abscesses after incision. I have made the applications myself, renewing them day by day, and I have care-



Fig. 4.

fully watched the effect. I have had no bias in favour of this plan, nor have I been prejudiced against it. I have simply

employed it because it made great promises, and I have no hesitation in saying that I have been completely disappointed in my expectations. I admit that my expectations were high pitched. I acknowledge I did expect to meet with union by the first intention. With the exception of three cases, where I had removed

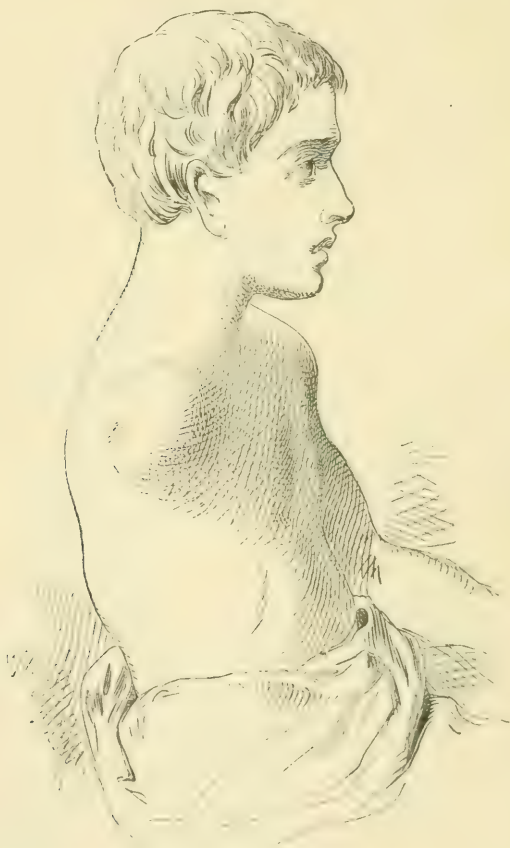


Fig. 5

loose cartilages from the knee-joint by free incision in different individuals, I have obtained no such results; and while, I believe, our surgical brethren in Aberdeen uniformly operate in such cases by free incision, without any antiseptic precaution, and rarely have any ill result, in a fourth case, where all antiseptic care

was taken, I had suppuration of the knee-joint, and a very narrow escape from a fatal result. I lately amputated a boy's foot by Pirogoff's operation, with the most minute attention to every antiseptic precaution; diffuse osteomyelitis of the tibia ensued, necessitating a second amputation at the knee; and on cutting up the limb I never met with a better example of acute osteomyelitis, nor did I ever see an instance where the suppuration, both within and without the bone, was so excessively putrescent.

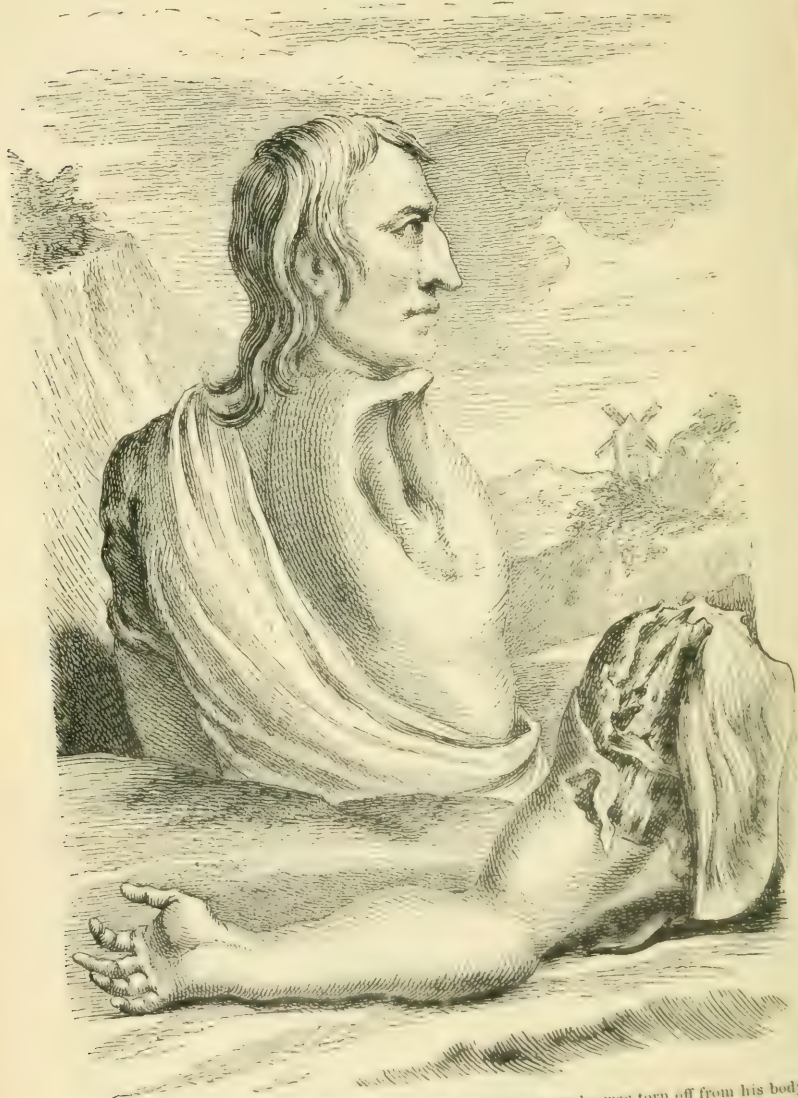
In this case I am not inclined to accord any credit to the antiseptic treatment as having in any way assisted in the satisfactory result. I fear my desire to employ it with every precaution delayed the cicatrization of the granulating surface. Lest this should be thought a prejudiced opinion, let me adduce the results in those cases most nearly related to the present amputation, viz., where the arm and scapula have been torn away from the trunk by machinery. There are eleven such cases on record: they all have recovered, and in a period varying between one and two months. Seventy-three days, the residence in hospital of this patient, seems long comparatively. I fancy the difference may not unreasonably be accounted for by the greater amount of cutaneous tissue left intact in the other instances as compared with the case I have described. Looking at the curious and now scarce copperplate illustration of the case narrated by Cheselden (see next page), it certainly is so in that example; and in the woodcut in Scarnell's case in the *Lancet* of 1832¹ the same condition as regards the proportion of skin is to be observed.

I believe, therefore, that the comparative tardy healing in my patient was due to a deficiency of skin; but, I again repeat, I can see no advantage which may justly be attributed to the carbolicizing of the wound and its surface. Perhaps by some the recovery of the patient is attributed to its employment. I believe persons unaccustomed to see great wounds might be impressed in this way; and from their want of opportunity to observe the progress and results in the larger surgical mutilations, young and inexperienced students are apt to imagine, when any new method is used, that success is due to the novel element imported into the treatment of the patient. This observation is only consonant with what we see every day in the introduction of pharmaceutic novelties into medical practice. Those who think carbolicized dressing saved this patient, must not forget that the eleven recorded cases of tearing away of the arm and scapula all recovered, and that they recovered without the aid of the modern antiseptics.

In the removal of the scapula, Mr Syme conceives that the division of the parts above and in front constitutes the best mode of attack. One result of this must necessarily be, that the subscapular artery is

¹ Vol. xxii. p. 114.

Fig. 6.



The figure of Samuel Wood, a miller, whose arm, with the scapula, was torn off from his body by a rope winding round it, the other end being fastened to the cogs of a mill. This happened in the year 1737. The vessels, being thus stretched, bled very little; the arteries and nerves were drawn out of the arm; the surgeon who was first called placed them within the wound, and dressed it superficially. The next day he was put under Mr Ferri's care at St Thomas's Hospital; but he did not remove the dressings for some days. The patient had no severe symptoms, and the wound was cured by superficial dressings only, the natural skin being left almost sufficient to cover it, which should in all cases be done as much as may be. Above twenty years since, I introduced the method of amputating, by first dividing the skin and membrana adiposa lower than the place where the operation was to be finished, the advantages of which are now sufficiently known.—*Op. cit.* p. 321.

divided at an early part of the operation. Mr Syme says this was attended with "a fearful gush of blood." Sir William Fergusson's experience in removing the scapula led him to suggest that it would be better to isolate the posterior portion of the scapula first, leaving the anterior incision and the disarticulation to the last—a recommendation apparently first carried into execution by Mr George Pollock of St George's Hospital. In the present example, I followed a similar general line of operative procedure; and from what I have seen of these operations upon the scapula, I have no hesitation in saying that, by attacking the scapula from behind and below, the whole proceeding is simplified, and that no fearful gushes of blood need be anticipated. Dr Rogers, in his operation, followed this method, and, as regards the bleeding, says that it was "unexpectedly small."

The interest which attaches to scapula operations will not, I trust, be diminished by the tables which I have collated from the admirable statement of Dr Stephen Rogers of New York.¹ In adopting it, I have re-arranged his one chronological statement in separate tables, so as to show the nature of the operation under different headings.

Operation of Removal of Arm and Scapula.

Summing.	1808.	Arm and scapula.	Gunshot fracture.	Recovery.	Man adult, male.
Metani Bey.	1830.	Arm and scapula.	Gunshot fracture.	Recovery.	Boy of 14 years.
Curry.	1838.	Arm and scapula.	Gunshot fracture.	Recovery.	Castration at same time.
Lellan.	1838.	Arm, scapula, and most of clavicle.	Encephaloma.	Recovery, relapse, death 6 months after operation.	Boy of 17; first case of this operation for tumour.
Mussey.	1845.	Scapula, arm, and outer half of clavicle.	Osteo-cancer (?).	Recovery.	In good health 9 years after.
Lewis.	1845.	Scapula, clavicle, and fragment of arm.	Machine injury.	Died soon after.	In consequence of other severe injuries.
Leipie.	1860.	Arm, scapula, and clavicle.	Machine injury.	Recovery.	...
Warme.	1863.	Arm, scapula, outer half of clavicle.	Osteo-cancer.	Recovery.	Man of 40.
Fergusson.	1866.	Removal of all scapula above spine, the clavicle, and arm.	Fibro-recurrent.	Recovery.	Æt. 20.
Fergusson.	1867.	Arm, scapula, and part of clavicle.	Osteo-cancer.	Died 2 days after.	Fatty heart, kidneys, and liver.
Watson.	1869.	Scapula, arm, and two-thirds of clavicle.	Machine injury.	Recovery.	Lad, æt. 13.

¹ Case of Excision of the Entire Scapula, to which is added a History of the operations involving a removal of all, or a considerable part of, this Bone, with the view of establishing the Surgical Character and Prognosis of this class of operations. By Stephen Rogers, M.D., New York.—*American Medical Journal*, October 1868.

Operation of Removal of Scapula, after an Antecedent Amputation of Arm.

1. Crossby.	1835.	Removal of scapula, secondary to amputation of arm.	Malignant disease.	Recovery, but died from return in a few months.	Reported verbally to Dr Rogers, by Dr Crossby of Hanover, U.S.
2. Mussie.	1835.	Removed scapula & clavicle 6 years after amputation of arm, and 19 yrs. after amputation at metacarpus.	Osteo-sacrum, æt. 40; date of removal of scapula.	Recovery; 30 years afterwards well.	Dr Rogers thinks this an undoubted instance of cancer, and "therefore a case well calculated to encourage the surgeon to operate for the removal of cancerous bones."
3. Rigaud.	1842.	Removal of scapula and outer end of clavicle 8 months after amputation at shoulder.	Osteo-sarcoma; æt. 51.	Recovery; well 3 years after.	...
4. Fergusson.	1847.	Scapula and outer end of clavicle 3 years after amputation at shoulder.	Caries; adult male.	Recovery.	...
5. Buck, of New York.	1864.	Entire scapula and part of clavicle secondary to amputation of the arm.	Osteo-cancer; adult male.	Recovery; return of disease.	Arm previously removed, and disease returned in the scapula.
6. Busch.	No date.	Removed scapula & part of clavicle after amputation of arm.	Osteo-cancer; woman.	Recovery; well 2 years after.	...

Operation of Removal of Scapular Processes, with Head of Humerus.

1. Syme.	1836.	Head of humerus, with glenoid cavity, coracoid, and acromion.	Enchondroma; man.	No subsequent history.	...
2. Gilbert, Philadelphia.	1846.	Amputation of arm with removal of processes.	Osteo-cancer; patient a medical man.	Died 3 months aft.; return of disease.	...
3. Gilbert.	No date.	Amputation of arm with removal of processes.	...	...	No record; tumour only.

Partial Excisions of the Scapula.

1. Van Walther.	1811.	Attempt to remove the greater part of the scapula.	Spongy swelling upon bone.	Died 14 days after operation, exhausted.	Patient, man, æt. 20; operation abandoned on account of syncope.
2. Liston.	1819.	Three-fourth bone removed; boy æt. 16.	Osteo-cancer, vascular form.	Died from reproduction.	Frightful bleeding on sawing bone.
3. Heyman, Coblenz.	1823.	Removal of all the bone except the processes and supra-spinous fossa.	Osteo-cancer; man, æt. 22.	Recovery; good use of arm; disease reproduced.	...
4. Jansen, Lyons.	1824.	Removal of all the bone except the processes.	Osteo-cancer; woman, æt. 45.	Well in 2 months; good arm.	Growth from infra-spinous fossa towards axilla; prevented approximation of arm to side.
5. Wutzer, Münster.	1825.	Removal of all the bone except the processes.	Osteo-cancer; medullary.	Recovery; good arm; return of disease; death 4 years.	...
6. Castara, Luneville, Fr.	1826.	Attempted removal of the greater part of bone.	Tumour of scapula.	Died; air in veins.	20 arteries tied; bloody operation.
7. Luke.	1828.	Three-fourth of bone.	Supposed malignant disease; girl, æt. 14.	Recovery; useful arm.	...

ager.	1833.	Entire bone except glenoid and acromion.	Caries; girl, æt. 8.	Patient died in 9 months; useful arm.	General tuberculosis.
Craveas.	1838.	All the bone below spine.	"Medullary sarcoma;" male, adult.	Return of disease, and death in 1 year.	No record of usefulness of arm; hæmorrhage alarming.
Cooper, Brit. Guiana.	1842.	One-third scapula & outer third of clavicle.	Machine injury.	Died soon after.	Of internal injuries.
Peterquin, Lyons.	1844.	All the bone except the processes.	Osteo-sarcoma; man, æt. 20.	Died 25 days after.	...
extor, jun.	1846.	All the infra-spinous fossa except post. margin.	Enchondroma; child, 2 years and 2 months old.	Well in 40 days; a good arm.	Youngest subject operated on.
angenbeck.	1848.	Removal of whole bone except glenoid surface and coracoid.	Comminuted fracture; man.	Died 21st day.	Pyæmia.
extor, jun. of Heidelberg.	1849.	Greater part of infra-spinous fossa.	Osteo-cancer; man, æt. 56.	Recovery; disease returned, and he died.	7 distinct operations performed upon cancerous reproductions.
angenback.	1850.	All the bone except coracoid.	Softened enchondroma; man, æt. 30.	Died in 17 hours.	Supposed to be due to the chloroform.
D. Gross.	1850.	All the bone except head (?) and acromion.	Osteo-cancer.	Recovered.	Died 3 months after operation, from pleuro-pneumonia.
ertz of Erlangen.	1852.	All the bone except glenoid and coracoid.	Medullary cancer; woman, æt. 20.	Died in an hour.	Loss of blood.
errier, Lyons.	1853.	Infra-spinous portion.	Enchondroma, adult.	Died in 24 hours.	...
nglehardt of Riga.	1853.	All except glenoid & other processes.	Necrosis; man, æt. 27.	Recovered.	...
arnochan, New York.	1857.	Three-fourth scapula, division obliquely across spine.	Caries; adult male.	Recovery.	...
alter, Pittsburg, Pa.	1860.	All the bone except the processes.	Necrosis; male, æt. 17.	Recovery; reproduction of bone.	Should be excluded from list.
udorpr.	1862.	Greater part of scapula.	Gunshot comminution and necrosis.	Useful arm.	Should be excluded from list.
aget.	1862.	All in infra-spinous fossa except inf. angle.	Osteo-cancer.	No subsequent history.	...
einker, Giessen.	1863.	All the bone except the glenoid cavity and acromion.	Encephaloma; lad, æt. 17½.	Died in 24 hours.	Exhaustion.
ergusson.	1865.	All except the acromion.	Encephaloma; male, æt. 25.	Recovery.	Third case of removal of entire scapula (?) in Great Britain; advocates leaving acromion when sound. He opened the joint first, but recommends the reverse plan.
ergusson.	1865.	All below the spine.	Fibro, recurrent.	Recovery, but after return; arm and remains of scapula afterwards removed.	...
llock.	1865.	Entire scapula except the acromion.	Osteo-cancer; girl, æt. 16.	Recovery.	...
sch.	No date.	Entire bone except the glenoid cavity.	Cause not stated.	Died.	Exhaustive suppuration.

Removal of the Entire Scapula and no more.

me.	1856.	Removal of the entire scapula.	Sanguineous cerebroform cystic disease; female, æt. 70.	Died 3 months after operation.	Exhausted; condition of wound not explicitly stated at time of death.
uh, Vienna.	1860.	Removal of entire bone.	Osteo-cancer; child, æt. 8.	Immediate recovery.	...
chaux of France.	1864.	Entire scapula.	Encephaloma.	Recovery, recurrence; died in 10 months after operation.	...
gers, New York.	1867.	Entire scapula.	Osteo-cancer; encephaloid; girl, æt. 7.	Recovery good; useful arm; disease recurred; death.	Died of mediastinal cancer, causing apnea.

Removal of Entire Scapula and Portion of Clavicle.

1. Langenbeck.	1855.	Entire scapula and three inches of clavicle (half an inch due to after necrosis).	Osteo-cancer; encephaloid; boy, æt. 12.	Died; return of disease 10 mos. after operation.	This operation preceded Mr Syme's excision of the "scapula and no more" by some months.
2. Jones, Jersey.	1858.	Entire scapula and an inch of clavicle.	Caries; girl, æt. 15.	Recovery.	...
3. Hammer, St Louis.	1860.	All the scapula; three-fourth inch of clavicle.	Osteo-cancer; woman, æt. 18.	Recovery; disease returned; she died in 10 mos. after operation.	Explored the tumour some days before operation.

Removal of Entire Scapula and Head of Humerus.

1. Heyfelder.	1857.	Removed scapula & head of humerus.	Caries; adult.	Died in 8 days.	Pyæmia.
2. Syme.	1862.	Entire scapula and outer end of clavicle; head of humerus having been removed previously to 1860.	Osteo-cancer; male, æt. 43.	Good and useful arm.	...

Cases of Avulsion of the Arm and Scapula.

1. Cheselden.	1737.	Arm and scapula; adult male, æt.	Mill accident.	Rapid recovery.	No bleeding; no ligatures: Cheselden's Anatomy; Philos. Transactions, vol. xi. p. 313.
2. Clough.	1779.	Arm and scapula gone, æt. 11.	...	Well in 2 months.	Philos. Transactions, vol. xi. p. 313.
3. Mussey.	1819.	Arm and scapula.	...	Well in 8 weeks.	Concludes that it needs a force of 840 lbs. to tear off arm; lost 10½ ounces of blood; Amer. Journal Med. Sci., 1837, vol. xxi. p. 387.
4. James.	1830.	Boy, æt. 10-11.	...	Nine weeks.	No bleeding; South's Chelius.
5. Scarnell.	1332.	Scapula wanting the cartilaginous margin, and arm; boy, æt. 13.	Mill accident.	A little more than a month.	Cut away the projecting portion of clavicle; Lancet, 1832, vol. xxii. p. 114.
6. Braithwaite.	1833.	...	...	Recovery early effected.	Lond. Med. Gazette, 1833.
7. Lizars.	No date.	Arm, scapula, and half of clavicle.	...	Recovery prompt.	South's Chelius.
8. Cooper.	...	Boy, æt. 7; arm and two-thirds of scapula.	Machinery.	Recovered rapidly.	New York Med. Jour., vol. i. p. 284; remains of clavicle and scapula removed by dissection.
9. King.	1845.	...	...	...	London and Edinburgh Monthly Med. Jour., 1845. [Surgery.]
10. Cartwright.	...	...	...	...	Fergusson's Practical
11. Lowe.	1866.	Lad, æt. 18.	...	Well in a month.	Lancet, Nov. 1867.

ARTICLE V.—*A Contribution to the Statistics of the Operation for Strangulated Femoral Hernia, being a Record of Fourteen Cases.*
By JOSEPH BELL, F.R.C.S., etc.

(Read before the Medico-Chirurgical Society of Edinburgh, 7th July 1869.)

I wish to begin this short paper by an explanation of my object in reading a mere account of a small number of cases in which an operation, not very difficult, and quite familiar, has been performed.

I have nothing new to advance regarding the method of operating; nothing very remarkable, either in the number of cases or in the results obtained.

Why, then, do I venture to take up, even for a few minutes, the time of the Society?

Because, in the first place, I believe that the operation for hernia, like that of tracheotomy, is one in which each instance possesses an individuality of character, the method of procedure and the results varying with every difference in the nature of the case, duration of the disease, and constitution of the patient. Besides this, there are several points or stages in an operation for strangulated hernia, at each of which questions may arise not always easy of solution, and to be solved only by the aid of accumulated experience. Is the sac to be opened or left unopened? Is the bowel in a fit state to be returned or not? How should protruded or adherent omentum be dealt with? These and similar such points are of great importance, and the manner of dealing with one or more of them may be the key to the result.

Hence, I have often felt that no surgical reading is more instructive or interesting than properly detailed cases of hernia, tracheotomy, or ovariectomy. By proper detail, I mean that nothing irrelevant should be introduced, and nothing important omitted. I shall be glad if this very small contribution of mine draw forth similar reports from those surgeons here, whose experience is necessarily much larger.

In the second place, I think, in a statistical point of view, such papers as this may be valuable. Indeed, it is only from the aggregate of such papers that statistics of any real use can be obtained. To obtain accurate and real statistics on any subject, it is necessary (1) that the reporter should give all his cases, successful and unsuccessful; (2) that a few important primary points should in every case be given, so that the reader may be able to compare *similia similibus*.

I believe nothing can be so misleading as inferences drawn from an *indigesta moles* of cases picked out of reports in journals, many of them incomplete, many written two days after the performance of the operation—all confessedly selected.

I wish, then, very briefly to report upon fourteen cases of stran-

gulated femoral hernia, on which I have operated during the last five years. I omit entirely the more numerous cases, in which the taxis has proved effectual, and the fewer cases in which I performed the operation for inguinal hernia.

Of these 14, 8 were in hospital; 6 recoveries, 2 deaths.

6 were in private; 5 recoveries, 1 death.

Sex.—Nine of those operated on were females—all recovered; five were males, three of whom died.

This proportion illustrates the fact that femoral hernia is far more dangerous, and more frequently requires operation, in the male than in the female; for, while cases of femoral hernia in the male are only in the proportion of 1 to 9, to those occurring in the female, cases requiring operation are at least 1 to 3.

Age.—The oldest patient was 80;

youngest . . . 26.

Average age, . . . 58.

Previous existence of a Hernia.

In 7 the hernia had existed before—all recovered;

„ 7 the occurrence of the hernia was recent—3 died.

Duration of the protrusion and symptoms of strangulation varied from 14 hours to 13 days.

		Days.	Hours.
The average duration in the 11 successful cases, was	3	12	
„ „ 3 fatal ones, . . .	6	16	

The results may, I think, be considered good, though on this point statistics are not easily obtained that are trustworthy. Of 14 reported by Mr Hey of Leeds, 5 died; but he does not include in his list cases in which the bowel was gangrenous.

For convenience and practical instruction I will divide the cases into three sets, and detail them simply in that order.

1. Simple, with rapid recovery, and little risk,	. . . . .	6
2. Dangerous, whose condition was very critical,	. . . . .	5
3. Fatal,	. . . . .	3
		<hr/>
		14

1. Simple Cases.

In none of these was there ever any cause for anxiety after the operation was performed. In all of these, except one, the hernia had previously come down more than once, and in that one the rupture was very small, and the femoral canal large. The average duration of strangulation in the six was little over 48 hours, and in none had it exceeded 72.

CASE I.—Mrs R., æt. 70. Tumour in right groin, nearly as large as a cocoa-nut; very tense and painful. Skin adherent over centre

of tumour in the line of an old hard + cicatrix. She had had a hernia at intervals for more than thirty years, and nearly thirty years ago was operated on by Professor Syme. Has worn a truss. On the present occasion the tumour has been down for three days, and constipation and vomiting have been present all the time. Injections had been given, and the taxis fairly tried. I operated at once, exposed the neck of a hard firm old sac constricted here and there by belts of fibrous tissue. One, which caused an hour-glass contraction in the sac, specially required division. Gimbernaut's ligament was then nicked; bowel was congested but healthy, and was at once returned. Rapid recovery.

CASE II.—Mrs F., æt. 45, was brought to Infirmary with symptoms of strangulation of two days' standing, and with pain and a tumour in left groin. On examining her before the clinical class in Mr Syme's absence, I found that the swelling was a lymphatic gland, but ventured to diagnose a small recent hernia behind it, forcing it forward; so, giving chloroform, I dissected out the gland, and then exposed a fresh hernia, rather less than half a walnut in size; the ring was large, and the contents were very easily reduced out of the sac. So I did not open the sac, but first emptied it, and then reduced it. The bowels acted almost immediately without medicine. Recovery was rapid.

CASE III.—As this case has some interesting points about it, I venture to give it more at length. J. A., æt. 26, a tall, strong, young country woman from Fossoway, has had a hernia in the left groin for five years. Three months before admission I saw her. It was then incarcerated, but after purgatives and rest, was got up and a truss given. In another month she returned with the hernia again down, and the truss quite useless. She was again put to bed, and during the next six weeks several attempts were made by Mr Syme and myself to return the hernia, without success, as a large portion of omentum still seemed to remain adherent. All this time the bowels acted tolerably well. The girl was very anxious for some radical operation, as her hernia rendered her perfectly useless.

16th Dec. 1867.—To-day the tumour suddenly became much larger, tense, and hard, and very severe pain at umbilicus made the patient, a good quiet girl, shriek out. Vomiting came on, and her expression quickly became haggard and anxious. Dr Finlay attempted reduction unsuccessfully, and ordered several enemata, and then sent for me at 1.30 A.M., or fourteen hours after this new attack.

As her situation was now very grave, I gave her chloroform, and, after a brief trial of the taxis, operated. I found a large old sac, with thick walls, containing about half a pound of adherent omentum, above which two coils of small intestine (almost half a yard in all) had protruded. The ring was tight, the intestine

twisted on itself, and of a fiery red colour. After unravelling the twist, and carefully looking for wound of the bowel, I endeavoured to return it, and with very great difficulty succeeded in getting the bowel back. The omentum was firmly adherent to the sac, and must have been incarcerated for months or years. As there was a great tendency to protrusion of the bowel, I took a strong silk thread and carefully sewed up the narrow part of the neck of the sac, then, leaving the sac and omentum in the hollow of the groin, I stitched the external wound carefully over them, and put on a firm pad. A large opiate was then given.

For five whole days after the operation, no motion of the bowels was allowed, the patient getting frequent doses of opium. There was no pain or vomiting, and the pulse gradually came down. On the fifth day, after two ineffectual injections, a full dose of castor-oil was given, which acted gently but very copiously.

Her convalescence was uninterrupted. There was very little discharge from the hernial wound. Two small abscesses required evacuation, one in the groin, the other in the labium. She was kept constantly on her back for two months to favour consolidation, and for another month was allowed very little exertion. When she left for home, there was no tendency to protrusion even on coughing, and she expressed herself as being perfectly comfortable. She is still to wear a truss as a precaution.

CASE IV.—Miss G. has had a hernia for many years, at intervals ; never has worn a truss. Tumour tense, painful ; size of small walnut in left groin. Symptoms have lasted for nearly three days, during which time she has been unable to return the hernia. Operation as usual. Sac old, thick, enveloped in fat. Bowel dark, but lustrous. Returned it. Rapid and complete recovery.

CASE V.—Miss V., æt. 72, has had a femoral hernia of right side for many years, coming down occasionally. Three days before I was sent for it came down, and notwithstanding her own repeated and very violent efforts she could not return it. Symptoms of strangulation exceedingly well marked. Tumour size of walnut, tense, and very tender.

Operation.—Sac thick, fleshy, and vascular. On opening it a loop of bowel was found dark, but shining, and glued to the sac by recent lymph. Returned bowel. Rapid recovery.

CASE VI.—Mrs L., æt. 45, sent from Jedburgh to the Royal Infirmary. A hernia has been in left groin for many years ; has now been strangulated for thirty-six hours, and very full trial has been given to the taxis. Tumour tense and tender ; vomiting very urgent. I operated ; sac was thick and very full. Bowel chocolate in colour, but lustrous and odourless. Reduced it. Rapid recovery.

2. *Cases in which the Patients' Cases seemed grave and gave much anxiety.*

These were five in number. In four, the hernia was a recent one. The fifth, though an old hernia, underwent some remarkable previous treatment, and was down for no less than thirteen days. The average duration of these five was five days and a half.

CASE VII.—Mrs B., æt. 65, sent from the country to the Infirmary; has had a tumour in the right groin for the first time four days ago. Symptoms of strangulation have been present only for two and a half days. Taxis had been freely tried.

Operation.—Stricture excessively tight; sac thin and recent; bowel dark but lustrous. Opium was freely given, but bowels opened early. Recovery rapid.

CASE VIII.—John Haagan, æt. 65, Burnett's Close. I was asked by two most industrious Dispensary pupils to see this old man, though they thought his case almost hopeless. He has had a large femoral hernia of the left side for three years; the bowel frequently comes down, but he has always been able to reduce it himself till thirteen days ago, when it came down; and since then all his efforts, most persevering and violent, have failed to return it. For six days he has had no motion of the bowels whatever; and, during that time, has had constant vomiting, which latterly has been stercoraceous, with frequent hiccough. Has had intense pain in abdomen, centring at umbilicus. Tumour tender; pulse 122; very shabby. He has, during the last week, been seen by at least three doctors, all of whom had recognised his malady, and attempted the taxis, and then recommended the Infirmary; to which, however, he refused to go. He has had a series of cathartic remedies, including ʒiv. of castor-oil at one dose, and various enemata, without relief.

After some difficulty, I got permission to operate.

Operation.—T-shaped incision; then cleared sac, which was firmly adherent to muscles and to the sheath of the vessels; then divided Gimbernaut as usual; opened the sac cautiously, and had to divide two constricting bands in its wall. The bowel was partially adherent to the sac with recent lymph, otherwise healthy-looking, congested, but retaining its lustre; so, notwithstanding the long duration, I returned it at once. Great relief to the pain and vomiting, so that before I left the house the pulse had fallen to 88.

I need not detail the progress of his convalescence, which was tedious, but he made an excellent recovery, and is now wonderfully well for his years.

Remarks.—In this case, the old standing hernia had a wide neck; the constriction, though sufficient to strangulate and inflame the bowel, was not sufficient to kill it; hence the escape of the patient.

CASE IX.—A tall, wiry, but feeble old man, æt. 80, was admitted to the Infirmary. Has a tumour for the first time in left groin for three days at least. Constipation for five days; vomiting for three; latterly stercoraceous.

Operation.—A thin-walled recent sac; contained a knuckle of very dark bowel; ring very tight; bowel returned. Notwithstanding his feebleness, the patient made a good recovery.

CASE X.—Mrs M., æt. 50, was admitted into the Infirmary after constipation and vomiting of seven days' duration. For some days the vomiting has been black and stercoraceous. A tolerably large and quite recent hernia was discovered on the left side; it was very tense and tender. Taxis had been tried on her admission.

Operation.—On exposing the sac, I found it so exceedingly tense as to be very difficult to open; so first divided the ring, then reduced some of the faecal contents, thus relaxing the sac, and afterwards opened it freely. A large loop of small intestine, of very dark colour, appeared. There was no evidence of perforation, so it was returned. The sac, however, looking very doubtful, was retained in the wound. The bowels soon acted, but the sac sloughed, and not only it, but large quantities of the pelvic cellular tissue died also, and were exfoliated in the form of large solid white sloughs, with a most profuse and very foetid suppuration. The convalescence was tedious but satisfactory, for the great matting together of the deep tissues acted as a natural cure; and though she got a truss as a precaution, I believe the hernia never again came down.

CASE XI.—Mrs W., æt. 54, has had a reducible hernia of the right side for many years, for which she has worn a truss. On the evening of May 5, 1869, she first noticed a small tumour in her left groin, which was very painful. She made many and severe efforts to reduce it, and, after a night of great suffering from abdominal pain and vomiting, sent early in the morning for Dr Burn, her medical attendant. He kindly asked me to see her. I found her in intense pain—so bad, that she said the pains of childbirth were nothing to it. The prostration was excessive, and all the symptoms were very severe, though the hernia had not been down quite fifteen hours.

After a gentle trial of the taxis, I operated; found a very thin, recent hernial sac concealed in a quantity of fat. On opening the sac the contents seemed at first simply omentum. This I unravelled, and was rewarded by finding a knuckle of bowel twisted and enclosed in it, so tightly as to be already considerably inflamed. The fluid also, which escaped on opening the sac, was salmon-coloured and slightly flocculent. The patient has made a good recovery. There was a slight movement of the bowels immediately after the operation, after which, as there was some abdominal pain,

I gave opium freely, and no further movement was allowed for seven days.

3. *Fatal Cases.*

These were three in number, all males. In all, symptoms of impending dissolution were present when I undertook the operation. In all I gave a most unfavourable prognosis. In all it was verified within fifteen hours. In none could the death be ascribed to the operation; in all, to the delay of the operation.

CASE XII.—A. B., æt. 64, a wiry-looking though aged Irish navvy, was brought into Hospital late on a Saturday evening. A small tumour had appeared for the first time in the right groin during exertion on Tuesday, since which he has had pain, constipation, vomiting and hiccough, with recent abdominal tenderness; severe and frequent efforts at the taxis had been made; pulse small and thready, over 120. Patient wandering in his mind. Peritonitis evidently far advanced. Operation as usual. A small portion only of the wall of a knuckle of small intestine was actually strangulated, but all the parts were glued together with recent lymph. The constriction, which was very tight, was relieved, and bowel replaced just inside; there was no risk of it slipping up, from the numerous adhesions. He got a large opiate. In an hour the bowels acted copiously, but he gradually sank, and died in five hours more—as might have been expected.

CASE XIII.—M., æt. 65, sent in from the country to the Royal Infirmary.

History.—Patient states that he has had a rupture in his inguinal region, pointing out the place pretty distinctly, but that he never had any tumour where it now is, in the right groin. The present tumour appeared six days ago, and since then he has had no passage, constant vomiting and hiccough, and intense pain in abdomen. He lies in bed in the characteristic posture, and he has the peculiar pulse of peritonitis.

Appearance.—A flattened lobulated tumour of a dusky red colour, and about the size of half an orange, occupies the right groin. The skin is of a brawny hardness, and very adherent. He ascribes this to repeated and violent efforts at the taxis.

Kindly assisted by Dr Gillespie, I made a free T-shaped incision, and dissected off the thickened skin. I found a very thin sac, quite adherent to the skin, with recent lymph. On opening this, a quantity of very foetid faecal-looking pus escaped, of a dark clay colour. Slitting up the sac freely, I then exposed a knuckle of bowel, the principal part of which was quite gangrenous; flatus escaped by some small perforations at the edge of the gangrenous portion. I then divided the constriction at Gimbernaut, freed the knuckle of bowel from its adhesions, and drawing down a little

more healthy bowel, stitched it to the external wound, and laid the gangrenous portion freely open. The patient was put to bed, and poultices applied. The peritonitis continued to increase, notwithstanding the exhibition of opiates, and he died exhausted in less than twelve hours after the operation.

Remarks.—An example of the effect of a tight constriction in a recent hernia, combined with severe taxis.

CASE XIV.—Mr L., æt. 57, had suffered from an irreducible femoral hernia, as large as a small orange, in the left groin for eleven years, which he had been advised not to meddle with. For seven days he had been constipated, and had almost constant vomiting, which has latterly become fecal, both in consistence and odour. He was, when I saw him for the first time, in the last stage of prostration, with a pulse hardly to be felt, and cold extremities. The tumour had been tender, but was not so now.

To give him the very faint chance, I operated at once, and found the sac filled with omentum, dry, cold, and foetid; in the centre of the omentum was a coil of about six inches of small intestine, very dark, but still shiny; this I carefully unravelled and examined; there was no perforation, so I divided the stricture, and returned the bowel just within it, then putting a strong ligature through the neck of the portion of omentum, I tied it in two halves, and then removed the gangrenous mass. Patient had a copious evacuation soon after the operation, and did not again vomit, but never regained his pulse, and died exhausted twelve hours after the operation.

I dare not, after trespassing so long on the time and patience of the Society, make more remarks on the above cases. I would only call special attention to four points:—

1. That in one case only was I able to feel justified in leaving the sac unopened.

2. That in every case where the bowel was not absolutely gangrenous, I returned it, even though peritonitis had begun, trusting simply to opium, and the avoidance of purgatives, to combat the peritonitis.

3. The very satisfactory result in obtaining a radical cure in the case where, after relieving the constriction and returning the bowel, I at once sewed up the neck of the sac.

4. The extreme danger of delay in every case, but more especially in cases when the rupture is of recent occurrence.

Part Second.

REVIEWS.

Report on Pilgrimage to Juggernaut in 1868, with a Narrative of a Tour through Orissa, Notes on Cholera, etc. By DAVID B. SMITH, M.D., Sanitary Commissioner for Bengal. Calcutta Central Press: 1868.

THE cholera is to Europe what the plague used to be during the middle ages. Continually recurring every few years, spreading with great rapidity, defying all medical treatment, and cutting off thousands of human beings, the question of its method of diffusion must remain a subject of the most pressing interest, especially as, although medical science can do little against confirmed cholera, sanitary measures can do much to diminish the number of seizures. In reviewing the Annual Report of the Sanitary Commissioner with the Government of India for 1867-8, by Dr Cunningham, we promised to discuss some questions which he had raised on the propriety of attempting to check cholera in India by means of an inland quarantine. In Dr Cunningham's account of the epidemic following the great pilgrimage to Hurdwar in 1867, we have the best case that was ever made out, at least in India, in favour of the contagious nature of cholera; and in the work at present under review, by Dr D. B. Smith, we have one of the most powerful of the many replies which the contagionists have ever had to meet. As might be supposed from the title, a large part of Dr Smith's book is devoted to matters which, however interesting to the philosopher and the Indian politician, are not within the scope of a medical review. Nevertheless, as we have read the book through with great pleasure, it is not throwing a few lines away to recommend Dr Smith's narrative of a visit to the celebrated Hindu temples in Orissa, and his remarks on the bad treatment and hardships to which pilgrims expose themselves, to all who wish information upon these subjects. Dr Smith writes in a truly liberal and thoughtful spirit, and often in an extremely graphic manner, though he may be accused now and then of a redundancy of detail for this impatient age, when people have much to read, and like compressed information.

Going now to the purely medical portion of the Report, the public may perhaps demand that, ere doctors should be allowed to give advice to legislators how to prevent cholera, they should be agreed amongst themselves as to how it is spread.

There are two views respecting the diffusion of cholera which we

shall try to state, with the arguments on which they are supposed to be founded.

One party regards cholera as a contagious disease propagated by human intercourse; the other regards cholera as an epidemic disease, like influenza, propagated in most cases independently of contagion.

The contagionists allege that cholera generally spreads along the great lines of human intercourse, and not faster than human beings can travel; that it propagates itself in proportion to the facility of intercourse; that it is peculiarly liable to be diffused from pilgrimages, fairs, and other assemblies whence a large number of people depart after living for some time in dirty undrained localities, and under unfavourable hygienic conditions, as in the case of the pilgrimage at Mecca in 1865, and that of Hurdwar in 1867. They acknowledge that the epidemic is sometimes more virulent at one time than another, and that its rise, spread, and decline are sometimes influenced by conditions which they cannot foresee or explain; but they point out that this is true to a certain extent of other diseases universally admitted to be contagious, such as smallpox and scarlet fever, which sometimes prevail at one place and sometimes at another, are virulent at one season, and at another totally disappear.

The contagionists consider that the poison is spread both by the air and by choleraic evacuations becoming diffused in drinking water; and in their eagerness to trace the filiation of one case to another, they sometimes talk as if they believed cholera to be the most contagious of all known diseases. A filthy lotah string dipped a moment into the water is declared to be sufficient to impregnate all the water in a well with contagious power. A civil surgeon thinks he has proved that cholera is communicable by carts and waggons which have travelled along an infected road or halted at infected halting-grounds.

The other party, too, insist that, as cholera often spreads with great rapidity, if every one case is simply reproduced by contagion from another, it must be much more contagious than scarlet fever or smallpox. Nevertheless, if we keep under observation a large number of cases of cholera, we do not observe those most exposed to the contagion to be those most liable to take it. On the contrary, medical men have spent their lives in India, and seen hundreds of cases of cholera without being able to satisfy themselves of a single case of contagion. Here is an argument which we copy from Dr Smith's work. Dr John Macpherson, whose experience of cholera in India could not but be very extended, in his work published two years ago, "Cholera in its Home," writes: "It is scarcely ever the case that the attendants who are employed to rub the extremities of cholera patients fall sick." "The sweepers who remove the excreta, and the washermen who wash the clothes, never suffered, although there was little or no employment of disinfectants. I have known of an orderly sleeping the whole night

in the bedding on which a cholera patient had just died. I have never seen a medical officer or subordinate on duty in hospital attacked, although a native assistant of mine once succumbed during an epidemic which he was engaged in treating from house to house. For a series of twenty-five years at least, only one resident medical practitioner has died of the disease in Calcutta."

Sir Ranald Martin ("Influence of Tropical Climates," 2d edition, 1861, p. 513) writes thus on the same subject:—

"In the European General Hospital of Calcutta, in which I served as assistant-surgeon and surgeon, it was well known that, of the five native keepers and washers of clothes who had during twenty-five years kept and washed the hospital clothing, not one had cholera, nor had those who assisted them. The same immunity attended the native dressers, averaging from twenty to thirty men, who, during the same number of years, were in constant and close attendance on the cholera sick all day and night; nor were the sweepers, who washed and dressed the patients, and who removed the matters vomited and ejected by stool, ever affected by cholera.

"I served in the General Hospital in March 1827, the time referred to by Mr Twining, when the house was filled with cholera patients, and when all of us, Europeans as well as natives, including native medical students employed for the occasion, were exhausted with the labours of attendance on the sick, but none of us suffered from the disease."

"Out of some 250 to 300 medical officers, most of whom saw the disease largely, Mr Jameson states that only three were attacked throughout the Presidency of Bengal, and one only of these cases proved fatal. The same circumstance held good in the Bengal Fusiliers in 1848, where, according to Dr Bruce, not one medical attendant, European or native, ever showed the least symptom of cholera; nor was there even a case of bowel complaint among them, though numbering a hundred persons, in constant attendance upon the cholera sick from May till September."

Compare this with Dr Richardson's remarks in a paper in the *Social Science Review*, July 2, 1866:—"My friend Mr Watkins, of Towcester, has shown, in a paper marked by singular acuteness of observation, that in the last epidemic which occurred in his district the persons most constantly and fatally attacked were the women who washed the clothes of the sick. This circumstance, which has been largely confirmed by other observers, is almost a necessary occurrence. Unless every portion of the garments washed were actually exposed to 212° Fahr. instantaneously, the organic poison would (at low temperatures) begin to pass off with the vapour, and those exposed to the vapour could only escape, I had almost said, by accident." In truth, some practitioners in this country, in their short acquaintance with cholera, have shown more the spirit of the detective than the calm range of the philosopher—more of the desire to write papers than to accumulate experience.

Exhausting marches and bad food are believed to be potent auxiliaries to an invading epidemic, hence pilgrims are peculiarly liable to be seized. Dr Smith's book gives some striking revelations of the sufferings the Hindu pilgrims undergo, and the rapacity and selfishness of the guides, who prey upon their devotion and credulity.

The non-contagionists remark that, so far from cholera spreading in proportion to the facility of communication, it often does the reverse. Sometimes it attacks two towns or villages, while a town or village between them is passed over. Sometimes one quarter of a town is attacked or spared in a manner absolutely unaccountable; often it stops short while communication goes on uninterrupted. Occasionally ships at sea are visited when several miles from an infected shore, and that before they have established any communication; sometimes it alights on ships long at sea; sometimes a large district is visited at so many points at one time, that the idea of simultaneous contagion involves difficulties apparently insuperable. On other occasions, whilst people ill with cholera fail to communicate the disease to those most exposed, cases arise which cannot by any stretch of ingenuity be traced to sources of contagion. The fact, too, that cholera is likely to recur in the same individual, seems to separate it from contagious epidemics.

Dr Bryden, who, in charge of the medical statistics of the Bengal Presidency, is in possession of materials with which no one else has been favoured, has advanced, that cholera—so far from being a wandering and capricious disease, going up and down as opportunities of contagion combined with changes of meteorological condition or deficient sanitary habits allow of it spreading from man to man—traverses India at certain seasons with a regularity which admits in many cases of accurate prediction. Cholera is never recurrent on its path; travels against the course of the Ganges and Jumna, and their tributaries; beyond the Bay of Bengal it travels eastward. A careful study of the lines which cholera follows, or what have been called the cholera waves, may give us some additional knowledge as to its manner of diffusion. This has been attempted in some places by Dr Smith, see Part II. pp. 44-50. Even admitting that contagion plays an accessory part—and there are grounds for believing that it does so—there must be some causes quite distinct which enable the epidemic at one time to invade Europe and America, while during other years it is confined to a part of India. It is insisted, that the pilgrims from Hurdwar carried it through the passes to Cabul, Cashmere, and Ladak; but it is admitted that they failed to extend it through the more adjacent and populous plains round about Agra, Burtpore, and Allahabad. The disease was propagated in 1865 from Mecca to Suez, and from Suez to Alexandria. How is it, then, that the pilgrims who brought it to Turkey and Syria did not carry it to Algeria or Morocco? and if some passengers from Alexandria brought the contagion to Marseilles with-

out having it themselves, why do the Bombay mail-steamers never import it to Aden or Suez? A man may help on a dust-storm, but only in the direction which it is taking.

But whatever the part pilgrims may play in introducing or helping on cholera, there are grave grounds for dreading them as very dangerous arrivals. Hence we need not marvel that the question of an inland quarantine, especially upon pilgrimages and fairs, has been seriously discussed in India. Dr Cunningham, who has studied the question so carefully, has already, in face of the difficulties in the way, somewhat modified his views. "Regarding the matter merely in a sanitary light," his opinion remains unaltered, "but a careful consideration of the many important points involved, leads to the conclusion that any general attempt to enforce this measure is undesirable."¹

The first question the advocate of quarantine has to answer is, What is the period of incubation of cholera? Sometimes we are told, the germ of infection remains dormant for many days; in others, it acted in a few hours; and choleraic diarrhœa is stated by some authorities to be as dangerous for contagion as cholera itself. Ten days was assigned by one military surgeon as a sufficient period for the disease to exhaust itself; but it appeared after thirteen days' removal from the seat of contagion, and this in the hills near Sabathoo, where a cholera epidemic has never shown much power. The Constantinople conference declares the period of incubation to be generally short; but it may be prolonged more than twenty days; and articles kept several months were believed still to retain contagious power. The *Virginie*, which left Marseilles on the 3d September 1865, is supposed to have infected Guadeloupe, where she arrived one month and three weeks after, although she had no cases of cholera on board. Dr Smith shows that quarantine has been on many occasions tried by the absolute governments of the Continent without success; and when we remember that nearly three millions of human beings were supposed to have assembled at Hurdwar in 1867, and that some of the other places of religious resort attract pilgrims by hundreds of thousands, we are afraid that any attempt to segregate or confine such a vast number of human vagrants, and to prevent them entering the great cities on their way, would be rendered futile by the want of proper means of carrying such an extensive surveillance into play. An imperfect quarantine, in our opinion, is worse than no quarantine at all. Of course the pilgrims, finding police and medical control disagreeable, would be disposed to deny that they were pilgrims, to give bribes to the native police, to avoid the public serais, to take cross roads, and seek accommodation in places where they would never have otherwise resorted. It would be foolish to say that the sanitary measures, put into execution by Dr Cutcliffe at Hurdwar,

¹ Dr Smith, *op. cit.*, Part V. p. 45.

were not deserving of every commendation, because the dreaded foe appeared after all, although it had been absent for ten successive years. At the same time, we do not think the success of the quarantine measures used to stop the spread of the epidemic attempted upon the returning pilgrims, to have been sufficiently encouraging to justify their being repeated. The civil surgeon of Amritsir remarked, "that the Hurdwar pilgrims complained bitterly of the treatment they had received—being driven off the regular road, and forced to walk during the heat of the day for miles through heavy sand without food or water. In fact, they attributed a great many of the deaths to this cause."

Let us not go beyond our light. If the authorities are successful in guarding from contagion the jails and the military cantonments, practical men would be disposed to attach increased value to restrictive measures, and no doubt the people of India would become more disposed to put in practice those sanitary measures to which an unaided and overworked central government cannot properly attend, and individuals would soon learn to adopt those private measures of precaution which neither government nor municipality can enforce. Some success appears to have attended the efforts to keep the cholera out of the jails by strict quarantine, which, however, had been preceded by increased attendance to sanitary measures. Out of eighty-two jails in the North-Western Provinces, Punjab, and Oude, no more than twenty-five were attacked, and some of the jails which escaped were large prisons in the centre of an infected population. The mortality to which the native sepoy is subject from cholera is much less than that of the European soldiers and Ghoorikas, perhaps because they are not in their own climate.

It is scarcely necessary to make any remark about the other sanitary measures, whose efficacy against cholera are universally admitted, such as avoidance of impure water and of bad air, and the enforcement of strict temperance and personal cleanliness. Moving the troops out of cantonments into tents has, as a general rule, been found satisfactory, but not always, the deaths from sunstroke in two regiments being very large. A detachment of the 36th at Shahjehanpore, which went into tents, suffered much more from cholera than the portion which stayed in cantonments.

The practice now so common in cholera epidemics of putting astringent and sedative drugs into the hands of ignorant dispensers, to be given to any and all comers, for any and all varieties of diarrhoea, is, in our opinion, as objectionable as that of burning poor people's clothes when boiling water is known to be quite sufficient to disinfect them.

Dr Smith records some interesting facts about the prevalence of cholera in Calcutta, showing that it produces four times as many deaths during the three hot and dry months, and twice as many deaths during the three cold and dry months, as during the three hot and wet months. It would thus appear that during heavy

rains, cholera becomes less frequent. His conclusion is, "*Dry air, with high temperature, and wide range of the thermometer, is most favourable to the development of cholera; while moist air, with high temperature, and small range, is most unfavourable to it.*" We question whether this will be found of universal application. The climate of Lower Bengal, the permanent breeding-ground of cholera, is more humid and more equable, as well as cooler, during the hot months, than that of many parts of India where cholera is not nearly so frequent; and places with a very equable and moist climate, Madeira for example, have been decimated by cholera. Besides, in a place near the sea like Calcutta, the humidity of the air is not always determined by the rainfall.

In taking leave of Dr Smith's book, we are sorry not to be able to reproduce some of the many curious details on the sanitary condition of Orissa. Take the following as a specimen:—

The Coles and Gonds "indulge to excess in potations of intoxicating liquor, particularly of a spirit made from the flower of *Bassia latifolia*; with this they are able to go without food for days, and remain quite satisfied, and work remarkably well whilst its influence lasts." Although they use no medicine when they are ill, this is not from parsimonious motives. They trust entirely to the sacrifice of birds and quadrupeds. "The poorest of them," writes Dr Meyer, "keep fowls, pigeons, and goats for this purpose. Many a family is ruined, should there be a sick person in the house labouring under a chronic disease, and requiring these offerings daily for invoking their gods to alleviate their sufferings."



The Baths and Wells of Europe; their Actions and Uses. With Hints on Change of Air and Diet Cures. By JOHN MACPHERSON, M.D. London: Macmillan & Co. Pp. 327.

CLIMATOLOGY is year by year attracting more attention, and medical men are becoming more and more persuaded of the great importance of an accurate knowledge of the topographical and meteorological conditions which influence the health of communities. Quite apart from the interest which belongs to medical geography, looked at from a general or non-professional point of view, its claims to the attention of the medical practitioner are such that he ought to consider an accurate knowledge of it not only expedient but absolutely essential. Whilst the general reader may be interested by the important facts which have already been ascertained with regard to the areas of distribution of certain diseases, and the influence of temperature and other conditions on the death-rate of a country, the medical man has to remember the therapeutical aspects of the study, ever mindful of the fact that in change of climate we have one of the most powerful agencies for the cure of disease.

Since the date of the publication of Sir James Clarke's celebrated work "On the Sanative Influence of Climate," many and good books have appeared on the subject, of which some have been general, almost encyclopedic, in their plan, whilst others have treated of the claims of special localities as health resorts. All have been intended as guides for the medical practitioner, in directing patients in the search of climates suited to their diseases. The work now before us does not pretend to be a systematic treatise on climatology; for, as its title announces, it treats of the "Baths and Wells of Europe." Its publication appears to us to fill up most appropriately an important hiatus in our English medical literature; for skilfully, pleasantly, and learnedly, Dr Macpherson has brought together just the kind of information which the busy doctor would like to possess on a subject concerning which he is very likely to be consulted by his patients.

Although, as we have remarked, Dr Macpherson's book does not profess to be a treatise on climatology, the reader will find that he will pleasantly learn from it as much on the subject of climate as from many of the more pretentious systematic works; whilst on the special subject of which it treats, it is as explicit, as lucid, and as correct as could be desired. It is obviously not the production of one who is bath-mad, or specially biassed in favour of any particular spa, but it bears the impress of having been written by one who has travelled much, observed carefully and impartially, and who can write in an easy and agreeable style.

Dr Macpherson's work is divided into four books. The first includes five chapters on the elements of treatment: on bath life, on change of air, on external use of water, on internal use of water, and on mineral waters generally.

Book II. comprises four chapters on baths—1st, on indifferent and earthy baths; 2d, on sulphur baths; 3d, on salt and saline baths; and 4th, on artificial baths and inhalations. Under each head the author gives the kind of critical information which indicates his perfect familiarity with the different watering-places, and in addition he generally makes sensible remarks on the probable mode of action of the various waters. Thus, in his concluding remarks on salt and saline baths, the author remarks, "As none of the mineral constituents are absorbed in the case of alkaline and alkaline saline waters, the effect is that of very soft water, which mollifies the epidermis, and makes it particularly easy to clean the surface of the skin. No such waters are rich enough in salts to act as stimulants, and the stimulating action of such baths depends on their temperature and on the carbonic acid they contain, unless the bath be made strong artificially, which is expensive. Much the same is the case with steel baths, in which ladies have so much faith, not entertaining a doubt that the iron is absolutely absorbed through the pores of the skin. This is entirely imaginary; not so, however, the benefit which they actually derive.

"Flechsig, after a careful analysis of the comparative effects of lukewarm water, of plain water, and of water containing iron and carbonic acid, has arrived at the following general conclusions:— That iron baths act on the system mainly by producing stimulation of the peripheral nervous system, and thus altering the functions of the skin and lungs. The altered activity of the skin seems to be the prime mover of the further changes which take place in the interstitial change of tissue" (pp. 166, 167).

Book III. includes seven chapters, on indifferent and earthy wells, on sulphur wells, on salt springs, on alkaline waters, on purgative waters, and on iron waters. The author is necessarily often obliged to speak of localities which have been mentioned under the heading of Baths. In many of the tables exhibiting the amount of the solid and gaseous constituents in different waters, the author has omitted to state the quantity of water in which they were held in solution. As in other tables the quantity of solid matters is stated in grains in 16 ounces of water, we presume that the numbers are always intended to exhibit this relation. In a future edition the author might, however, be more explicit on this point.

Book IV. possesses less interest than the three preceding, for it treats of "Diet Cures." The reader will, however, be amused to read the details of the grape, milk, and whey cures as they are practised in Switzerland.

In concluding this short notice of Dr Macpherson's work, we have again to express our high opinion of the manner in which he has discharged the task which he has undertaken.

History of the Medical Department of the University of Pennsylvania.

By J. CARSON, M.D. Philadelphia: Lindsay & Blakiston: 1869.

Pennsylvania Hospital Reports. Vol. II.: 1869. Philadelphia: Lindsay & Blakiston.

WE have perused these two handsome volumes with much pleasure. The History of the Medical Department of the University of Pennsylvania is particularly interesting to us, for we find that that Institution is connected with our own University by very close ties indeed. The men who founded the Medical Faculty in the College of Philadelphia, and were the first occupants of her chairs, received their education in Edinburgh, and were graduates of our own Alma Mater. She was the model upon which this transatlantic institution was constructed, and there ought, therefore, to be the warmest sympathy between the two schools. Dr Carson has executed his task in a most creditable manner, and gives much interesting information regarding the lives and labours of the various distinguished men who have filled the professorial chairs in his University. We are glad to learn that, by their efforts, the medical

school of Philadelphia has gone on prospering, and now occupies a position of great usefulness and importance. Nearly eight thousand graduates have left its halls, and it has, likewise, been the means of establishing numerous schools of medicine throughout the United States.

From a very early period clinical instruction has formed a leading feature in the teaching arrangements of this University, and ample facilities are provided for the practical study of disease in the wards of the Pennsylvania Hospital, which was founded in the year 1751.

The Pennsylvania Hospital Reports, of which this is the second volume, are got up very much in the style of those which are annually published by the medical officers of the London hospitals, and consist, for the most part, of papers of a practical character, based chiefly on clinical observations. This volume contains twenty-three articles, which are carefully and ably written, and much valuable knowledge is communicated both of a medical and surgical kind. In a paper on "The Therapeutics of Acute Rheumatism," Dr J. M. Da Costa gives the results of a series of cases treated by the bromide of ammonium, which was usually given in fifteen to twenty grain doses, well diluted, every third hour. In thirty cases, the mean duration of the attack was 22·5 days; and the mean time under treatment in the hospital, 14·16 days. Under the use of the bromide the patients rested better, the pains were eased, the pulse usually became slower, and often lost its force. In the vast majority of instances the remedy gives rise to no gastric symptoms; and as regards the cardiac complications, the author states that not a single case had endocarditis, originating under treatment; in not a single one was it met with in which it had not existed when the patient was admitted; and in none did signs of cardiac trouble exist at the end, unless they had been present in a marked manner at the outset. Dr Da Costa believes that the bromide of ammonium acts most favourably as regards the prevention of cardiac affection. Our space will not permit us to make quotations from any of the other papers, but we have pleasure in commending their perusal to the profession. The book is beautifully got up, and the illustrations are executed with much skill.

A Manual of Materia Medica and Therapeutics, including the Preparations of the British Pharmacopæia (1867), and many other Approved Medicines. By J. FORBES ROYLE, M.D., F.R.S.; and FREDERICK W. HEADLAND, M.D., B.A., F.L.S. Fifth Edition. London: John Churchill & Sons: 1868. Pp. 824.

THE fifth edition of Royle and Headland's Manual retains the many excellent qualities which have gained so large a share of

popularity and so high a reputation for the former editions. Remodelled in accordance with the British Pharmacopœia of 1867, it has, of necessity, received many important additions, and these appear to have been effected with all the care, accuracy, and elaboration by which certain departments of this work are distinguished. It is scarcely necessary to explain that the departments referred to are those comprised under the subject of the *Materia Medica* proper. In all that refers to the natural character, to the sensible properties, and to the chemical characters of drugs, it would be difficult to point out any text-book that contains so great a mass of detailed information, or that exhibits such extensive learning.

In conspicuously unfavourable contrast with these excellences, that portion of the Manual which is comprised under the second clause of the title, and which treats of the actions and therapeutic uses of remedies, must be regarded as unworthy of the relative importance of the subjects with which it is concerned, and of the present state of knowledge. As a text-book of Therapeutics as well as of *Materia Medica*, its objects are not only to supply information regarding the physical and chemical characters of drugs, but likewise to afford instruction to the student and the practitioner in the employment of remedies. Yet, singularly, in a work to which Dr Headland's name is attached, we are permitted, by implication, to suppose that the former object is infinitely more important than the latter. The most cursory inspection will be found sufficient to justify our statement; nevertheless, to establish it in the most satisfactory manner, we shall select four substances, which are conspicuous on account of their great therapeutic value, and which also possess considerable chemical and pharmaceutical interest; and we shall contrast the authors' treatment of their physical and chemical and pharmaceutical properties with that of their physiological and medicinal actions.

The first of these substances is bromide of potassium: three-quarters of a page are devoted to its synonyms, the history of its discovery, its properties, preparations, and tests, and the substances with which it is incompatible; while four lines and five words are deemed sufficient for the description of its actions and uses. Arsenic, altogether, occupies thirteen pages and a half; but of this space, the actions and uses of the arsenical compounds and preparations monopolize rather less than one page. Nineteen pages are occupied with a description of the characters and therapeutics of opium and its preparations; yet, strangely, only fifty-one lines in all, or one page and one line, of this space deal with the therapeutics of what the authors, with good reason, pronounce to be "the most important of all therapeutical agents." Lastly, cinchona is treated of in thirty-five pages and a half; its botany, chemistry, pharmacy, and preparations are described in about thirty-four pages, with the admirable elaboration which characterizes the treatment of these departments throughout the work; but, unfortunately, the deeply

important subjects of the actions and uses of the cinchona barks and alkaloids are merely alluded to in several detached passages; which, if collated together, would occupy but little more than one single page.

The insufficient treatment of the therapeutical department of this Manual has led, as might have been anticipated, to the omission of many important matters, whose consideration is properly looked for in such a work. We will refer to only a few of the more prominent of these omissions. The subject of therapeutical antagonism has occupied a large share of attention, and has already yielded many truths of great practical value and of the highest scientific importance; yet we have failed in finding that it is even alluded to by Royle and Headland. Some account might surely be expected of the administration of remedies by subcutaneous injection, as well as by the no means uncommon nor worthless method of inhalation; yet both are ignored by the authors. Our space prevents our citing many of the omissions in the statements regarding the uses of drugs, but we cannot refrain from pointing out that so well-known and frequently-practised a treatment for nocturnal incontinence of urine as that by belladonna or atropia, is nowhere mentioned.

Not only are we dissatisfied with the insufficiency of the space devoted to the consideration of therapeutics, and with the many important omissions that are necessarily consequent on this, but we are also dissatisfied with the general character of this section, and with the loose and unsatisfactory nature of many of the statements that it contains. We find it asserted, for instance, that "bromide of potassium has a special power of subduing irritation of the nervous system" (p. 85). Such an assertion seems to us to be perfectly worthless; for the nervous system comprehends sympathetic as well as cerebro-spinal nerves, and the subduing of irritation in the one may produce a diametrically opposite general result to the subduing of irritation in the other. Everywhere technical terms and expressions of vaguely defined meaning are employed; remedies being characterized as alteratives, deobstruents, narcotics, acrids, or nervine tonics. The free use of these and similar terms in the chapter on the "Physiological and Therapeutical Arrangement of the *Materia Medica*" renders it unnecessary that we should specially examine its merits; for, happily, the recent progress of rational views on therapeutics—on a healing art based on scientific physiology—seems to promise that such terms will soon be consigned to that oblivion which they assuredly deserve.

In concluding this notice, we are anxious to explain that, while we disapprove of much that is contained in the therapeutical department of this Manual, we warmly commend the many valuable excellences by which the other departments are so conspicuously characterized.

The Essentials of Materia Medica and Therapeutics. By ALFRED BAKING GARROD, M.D., F.R.S., Professor of Materia Medica and Therapeutics at King's College, London, etc. Third Edition. London: 1868. 8vo, pp. 479.

THE appearance of a third edition of Dr Garrod's *Essentials*, gives us another welcome opportunity for congratulating the author on the merits and success of his labours. We have, on previous occasions, expressed the opinion that there are few, if any, text-books we would so freely recommend to the student, and even to the practitioner; and we now repeat this opinion in reference to the present edition, having satisfied ourselves by a careful examination that it is at least as worthy of praise as either of the former. The changes that have been effected in the descriptions of the chemical properties of drugs, whereby a more general use of the new notation has been introduced, are decided improvements; and the large mass of new matter which has been added, principally relating to therapeutics, in our opinion immensely enhances the value of the work.

There are few writers on therapeutics who possess such extensive and exact knowledge of the subject as Dr Garrod, and there are few text-books, having consideration for the limited space of a comparatively small book, that so well represent the present position of this important subject. Yet, in the description of the actions of several drugs, we would suggest that an improvement might be effected by including the results of recent researches. Thus, we were somewhat surprised to meet with the following statement in relation to the active principles of opium, succeeding a good description of the effects of morphia, and a somewhat imperfect, if not erroneous, one of codeia and narcotine:—"The actions of the other crystalline principles of opium are as yet almost unknown" (p. 182). We have no hesitation in submitting that the statement is an unjustifiable one. The researches of Claude Bernard and others, published some time prior to the appearance of this edition, have yielded many important and valuable results, and have conclusively demonstrated the method of action of a large number of the active principles of opium. Again, it is asserted that increase of the colouring matters of the bile in the fæces is one of the manifestations of the cholagogue action of mercury (p. 93). We are at a loss to account for this assertion by an authority so well informed as Dr Garrod usually proves himself to be. It is now well established by the investigations of many observers, both at home and abroad, that the colour of the so-called "calomel stools" is in reality caused by subsulphide of mercury; while there is a considerable amount of evidence to show that mercury rather diminishes than increases the quantity of bile in the fæces. We observe that Dr Garrod is a believer in the cholagogue action of this drug. Although his statements on the subject

are characterized by caution, we doubt if a sufficient recognition is given to the many well-known physiological observations tending to throw some doubt on the matter, by Scott, Mosler, Inman, Jones, and others—observations that have been confirmed by the more recent investigations of the Edinburgh Committee.

The therapeutical chapter, extending over nearly fifty pages, contains a great deal of valuable matter. The remarks on indiscriminate prescribing and over-drugging are so admirable, that we consider ourselves justified in making the following extract:—“Many appear to prescribe with an idea that if numerous drugs are given at the same time, one of them, at least, may prove effectual; but it should not be forgotten that some may do harm instead of good; such indefinite mixtures, often excused under the plea that the power of combination in altering the action of medicines is of much importance, should be carefully avoided by those who wish to gain a clear insight into the real action of medicines, and to advance the knowledge of therapeutics. It must not, however, be supposed that all combinations of drugs are injurious; on the contrary, it is a well-established fact that they are occasionally very valuable, and many illustrations can be adduced. It is found, for example, that some purgative medicines act more especially upon one part of the intestinal canal, and some on another; that one drug increases the vermicular or peristaltic action of the bowels, and another causes a large flow of fluid from the mucous membrane; and, in practice, it is readily demonstrated that, not unfrequently, when each of two purgatives given alone causes unpleasant effects, a combination of the same is productive of satisfactory results” (pp. 375, 376). We would also draw special attention to the pages devoted to the “Form in which medicines should be exhibited, and time of administration” (pp. 376–378); and to those occupied with “Incompatibility in prescribing” (pp. 378, 379). The latter contain so much useful and interesting matter, and are so suggestive of further information being reserved by the author, that we should gladly welcome an extension of these remarks in future editions; or—possibly a preferable plan—a brief discussion under each article of its special incompatibilities.

The arrangement of medicines adopted in this chapter is based on their action on the organs and structures of the body. Much could be urged against this system, or, indeed, against any system, in the present state of therapeutics; but we refrain from criticising it, as we have nothing better to substitute, and as we are, on the whole, satisfied that it creditably serves the main purpose of *practical utility*, which the author aims at. The subsequent consideration of the subject of special therapeutics, in accordance with this arrangement, is characterized by great ability and conciseness. We fear, however, that this extreme conciseness is productive of some disadvantage. Details that would prove of great value are necessarily omitted, and a great mass of information is presented in an un-

interesting and uninviting form. We are convinced that the mastering of information thus presented will prove difficult and an unwelcome task to the student. These objections are, however, of a kind that may readily be removed in future editions.

The work concludes with an appendix containing much useful information, included in which is a valuable table showing the proportions in which some of the more important drugs of the Pharmacopœia are contained in the officinal preparations.

We may add, that the value of this work is increased by excellences of type, paper, and binding.

Part Third.

MEETINGS OF SOCIETIES.

PROCEEDINGS OF THE EDINBURGH OBSTETRICAL SOCIETY.

SESSION XXVIII.—MEETING XIII.

26th May 1869.—Dr BRYCE, *Vice-President*, in the Chair.

I. CASES ATTENDED AT THE MATERNITY HOSPITAL DURING LAST WINTER.
BY DR CHARLES BELL.

One of the great advantages of being connected with an hospital is the opportunity it affords of seeing cases which are, fortunately, of rare occurrence in private practice; and, in consequence, when we do meet with them in the higher classes of society, we should be much at a loss how to treat them were it not for the experience we acquire in our attendance on the poor, among whom they are more common, from their mode of life, and the hardships to which they are frequently exposed. It is desirable, therefore, that every hospital physician should pay the utmost attention to those rare cases, not only for his own advantage, but in order that he may be enabled to report them correctly for the benefit of others, without concealment or attempt to gloss over any circumstance which may occur in the course of the treatment. Every one who has had extensive experience must be aware that accidents do occasionally occur under the best management, and that the most skilful may commit an error in judgment, or an oversight in practice, which it is his duty carefully to explain, so that others may avoid similar mistakes, and be informed how to correct them.

The following cases appear to me to be of sufficient interest and importance to entitle them to be brought under the notice of this Society; and I hope that the other officers of the Maternity may be induced to publish their cases also, by which means that valuable institution may become more favourably known, and attract a greater number of students than it has done hitherto. Were this the case, we should have fewer instances of malpractice such as the history of the first of the following cases painfully illustrates. It is remarkable that the regulations of our licensing boards, in regard to the practical information required to entitle students to obtain a medical degree, are most defective, especially in reference to midwifery. In short, they are a burlesque; and the knowledge, so far as practice is concerned, is a mere name without any reality.

I have frequently verified this fact by examining young men holding degrees, and have found them totally ignorant of how to perform the most common and simple operations in midwifery, as well as of the period when they should be had recourse to. Yet, those newly fledged doctors are authorized by our colleges to exercise their ignorance on the public at large; and, too often, the poor become their victims. I recently had an opportunity of seeing a would-be accoucheur apply the forceps, which, however, he could by no means get to lock. On examination, I found that he had applied them so that the convex side of the blade was towards the one side of the child's head, while the concave was placed on the other. It was not remarkable, therefore, that the instrument would not lock. Another instance came under my observation, in which the operator scouted the idea of the patient being placed in any particular position for the application of instruments, and he applied the forceps so awkwardly that the perineum was torn in an oblique direction. But I shall not dwell on this subject, although it is one of great importance, and well worthy the consideration of this Society.

CASE 1.—Mrs B., aged 37, was admitted to the Maternity on the evening of the 18th December 1868, having left Dundee after her labour commenced, in consequence of her medical attendant having informed her that she could not be delivered without an operation, the responsibility of which he did not feel disposed to undertake. She stated that she had been delivered of her first child, a girl, in December 1852. Her labour came on the Sunday previous, and lingered until the following Wednesday, when she was put under chloroform, and forceps applied, but without effect; and her medical attendant then left. He returned the following morning, and gave her what she called the "*doctor's tea*," which was probably an infusion of the ergot, but with no good effect. He then gave her an emetic, which was equally ineffectual. She was afterwards put under chloroform, and the child's head was opened, because it was said to be hydrocephalic. After the performance of this operation, the doctor remained some time; but seeing that her labour did not advance, he left her, with instructions that he was to be sent for if anything occurred. Her pains returned at 8 P.M., and she was delivered by an old woman at 9 P.M., the doctor not having come when sent for.

In consequence of the application of instruments, the walls of the vagina and the perineum were much torn, and an opening was made into the bladder. She long continued in a very weak and exhausted state; and when she was able to travel, she went into the Royal Infirmary, where she remained for six months, and had the actual cautery frequently applied for the purpose of closing the opening into the bladder, but without effect, as she returned home apparently much in the same condition as when she left it. Not satisfied with the amount of cauterizing she had undergone in the Infirmary, her medical attendant at Dundee again subjected her to the same operation, but without the slightest benefit.

She was last unwell in the beginning of May 1868, soon after which she became pregnant for the second time; and when she arrived at the Maternity, she had been fifteen hours in labour. She was immediately put to bed and examined, and the head of the child was found presenting, but its progress was interrupted by the contracted state of the vagina. There was a strong band encircling it, leaving a space in the centre about the size of a crown; the point of the finger readily entered the fistulous opening into the bladder, which was about an inch and a half within the vagina, and in front of the membranous band. When I arrived, I found that the uterine efforts had stretched the circular band, so that it seemed to form a double crescent, one in front, and the other posteriorly, and beyond these the vagina was dilated. The posterior band was strong and resisting, and of considerable breadth, which led me to fear that it would be necessary to cut it. The front portion was narrower and more yielding. As the case was one of much interest, all the acting medical officers were, according to the regulations, summoned; and on their arrival,

the patient was put under chloroform, when Dr Keiller examined her, and found that the band had yielded considerably, and he was enabled to distend it still more with his hand, so that he thought the forceps might be used with safety. The head of the child was in the first position, and I applied the forceps, and delivered the child, which was apparently in the seventh month, and had been dead for some time. The patient made an excellent recovery, and soon left the hospital.

She returned some weeks after for the purpose of being operated on for the fistula; but on examination the urethra was found to be occluded for nearly half its length, which there is every reason to believe was the result of the cauterizing she had undergone. Of course the operation could not be performed.

A question naturally arises in regard to cases of this kind in which strong cartilaginous bands encircle the vagina and prevent the progress of the labour, whether or not it should be cut early, or left to be overcome by the powers of the uterus? Although this case terminated well for the patient, it is too probable that the foetus fell a sacrifice to the tedious labour; besides, there is a great risk of inflammation of the uterus and vagina being induced. I, therefore, consider that the band should be cut the moment that it is found to impede the labour; by which process the patient will be saved much suffering and serious risk. I was induced to form this opinion by the following case which came under my care when house-surgeon in the General Lying-in Hospital, York Road, London.

Mrs Smith, aged 29, was admitted to the Hospital on the 9th February, 4 P.M., when the resident midwife examined her, and found the os uteri fully dilated. She stated that her labour came on at 6 A.M. of the 7th, and the pains had returned every quarter of an hour since. I did not examine her until the evening of the 10th, when the waters broke. I observed that the vagina was very narrow and rigid, not admitting more than two fingers. The pains were strong, but they seemed to make no advance of the labour. I therefore bled her to the extent of six-and-twenty ounces, but without producing any effect in dilating the vagina, which led me to make a more particular examination, when I discovered a strong cartilaginous band crossing the posterior part of the vagina, and was of considerable breadth; and on introducing the fingers it lay flat, but on withdrawing them it was raised up like a wall. I immediately sent for Dr Rigby, who ruptured it with his finger, but although the pains were strong the labour did not advance rapidly. Dr Loeck was therefore sent for, and he recommended the forceps to be applied, which I did, and delivered the child alive, and with comparatively little pain to the mother. The placenta was soon expelled, and the patient was then removed into the ward, and she said she felt quite comfortable. On the following day, however, she complained of headache, which was relieved after taking a dose of castor-oil. There was no lochial discharge. She overlaid her child during the night.

On the 13th, she stated that she had not slept well, and she had a peculiar flightiness in speaking, and she expressed herself hurriedly. She got a dose of the liquor opii sedativus, which produced sleep, and when she awoke she felt refreshed and spoke more naturally. She passed water scantily.

14th.—Had slept none since last report. Complained of oppression at the chest, and of a sensation as if wind were passing from the stomach to the throat. Bowels opened twice, but had not passed water from the previous day. Tongue dry. The catheter was introduced, and a large quantity of urine drawn off. The catheter gave her a good deal of pain. She had a saline aperient, but without effect, and she had, in consequence, two grains of calomel and three of the carbonate of soda, which was to be repeated until the bowels were moved. She vomited several times during the day, and at night she complained of general pains all over her, but she had no tenderness on pressing over the uterus. P. 116. Tongue dry. The vulva was swollen and tender.

On the 15th, she was much the same as at last visit generally. There was, however, slight pain on pressure above the pubes. Urine scanty, and on using

the catheter little came away. Bowels moved once. Tongue dry, with a brown streak in the centre, and white on the edge. To have castor-oil. At noon the bowels had been freely opened, and the tongue was more moist. To have five grains of grey powder and the same of Dover's powder. In the evening she had some sleep, but she was very weak, and occasionally incoherent. Tongue dry. To have a dose of the liq. ammoniæ acetatis at bedtime.

16th.—Has passed a very restless night, but she was in other respects much as at the previous visit. The powder was repeated during the night, and she had two grains of calomel at 10 A.M. Dr Locoek saw her at 2 P.M., and ordered her to have a grain of quinine and ten drops of aromatic sulphuric acid in a wineglassful of water twice a day. To have arrowroot and port wine for diet. In the evening she had repeatedly vomited a dark-coloured fluid. Bowels had been moved twice, and the stools were natural in appearance.

17th.—Had several hours' quiet sleep during the early part of the night, but was very restless after 2 A.M. At the morning visit, 8 A.M., she was very weak, and was obviously sinking rapidly, and died at 9 A.M.

Post-mortem Examination.—On opening the abdomen, the intestines were much distended with air, but in other respects they were healthy. The gall-bladder was much distended with bile. The uterus was still large, and on laying it open, the internal surface of the fundus was healthy in appearance, and the placenta seemed to have been placed posteriorly between the Fallopian tubes; the orifice of the right tube was quite distinct, but that of the left was imperceptible. The body and cervix were in a gangrenous state, and covered with a dark green slough, which extended over the whole of the vagina, and along the urethra. The walls of the bladder were thickened and softened. The lining membrane was generally inflamed, and towards the orifice of the urethra very vascular, and the bloodvessels formed a beautiful arborescent appearance. The cellular substance between the rectum and the vagina was in a complete state of disorganization. The rectum however was healthy. The right Fallopian tube and the right ovary were healthy, and on laying it open there was found a large corpus luteum, and one of the Graafian vesicles was enlarged and opaque. The left ovary was a mere empty sac with thin walls, and having a slight redness on its internal surface. It is remarkable, where there existed so much disease and disorganization as there was in this case, that the patient should have had so little pain and tenderness. This is not unusual, however, as I have frequently observed that patients, when suffering under puerperal fever and inflammation, denied that they had pain, and its existence could only be ascertained by watching the countenance while pressure was made on the abdomen.

CASE 2.—Mrs Stennett, aged 29, was delivered in the Maternity of a male child at the seventh month, on the 9th January last, after a labour of nearly forty hours. There was a little hæmorrhage in the commencement of labour, when the os uteri was little larger than a sixpence. The pains were very frequent, but weak and ineffectual for some hours. She therefore had 45 drops of laudanum, which lengthened the period between the pains, and they gradually became stronger and more efficacious, although the passages were tense.

12th.—For two days after delivery she seemed to be going on well, but on the third day she complained of headache and slight abdominal pain, for which symptoms she was ordered five grains of Dover's powder and one of calomel every four hours, and to have linseed-meal poultices applied to the abdomen.

13th.—Pain still present, and she complains of difficulty and uneasiness in passing water. To have a drachm of the sweet spirits of nitre and twenty drops of the tincture of hyoseyamus every three hours. Her water was drawn off by the catheter.

15th.—Still complaining of pain of the abdomen, but could bear pressure without increasing it. The Dover's powder and poultices to be continued.

16th.—Passed a pretty good night, but now feels restless, and has pains all over her body. There was a considerable quantity of pus came from the vagina.

17th.—Passed a restless night, and has some pain under both mammae, and across the abdomen. Catheter used.

18th.—The pain of abdomen more severe; but it is not increased on pressure. Has considerable palpitation of the heart, but, on examination with the stethoscope, the heart and lungs were normal. She had considerable pain towards night, and occasionally broke into perspiration. She did not complain so much of the abdominal pain as of shooting pains all over her.

19th.—Passed a restless night, and at 7.30 A.M. seemed no worse than yesterday; but she died suddenly at 10 A.M., having been quite collected till within an hour of her death.

Post-mortem Examination twenty-four hours after death.—Decomposition of the body was going on rapidly. On opening the abdomen, a quantity of serous fluid escaped from the lower part, and she was found generally peritonitic. In the posterior part of the pelvis there was a sac containing about two pints of sero-purulent fluid. This sac was formed by adhesion of the uterus, ovaries, and broad ligaments in front and sides, and by the rectum and peritoneum behind and above, by the adhesion of the uterus to the intestines. It seemed to be quite distinct from the abdominal cavity, and had no apparent communication with it. The adhesions were recent and easily separated. The peritoneum over the rectum and sigmoid flexure was covered with recent yellow lymph. The uterus was six and a half inches in length, and three inches and a half in breadth from one Fallopian tube to the other; posteriorly it was covered with recent lymph, about one line in thickness; and the fundus, where it was attached to the intestines, was covered with portions of the same. The os uteri was about the size of a florin, ragged and ulcerated. On opening the uterus, its internal surface was in the normal puerperal state of the organ. The placenta seemed to have adhered to anterior wall below the level of the tubes. The cervix was rough and irregular, and measured an inch and a quarter. There was a small vascular polypus attached to its lateral surface, and it is probable that the hæmorrhage which took place during delivery came from this. The posterior surfaces of the broad ligaments were covered with lymph, but the anterior surface was only congested. The Fallopian tube was much thickened, and had almost a solid feel. It was about an inch in circumference, and was covered with lymph. Its orifice at the fimbriated extremity was so much dilated that it easily admitted a No. 10 bougie. The left tube was natural, and its opening at the fimbriated extremity scarcely admitted the point of the uterine sound. The left ovary contained some old corpora lutea. The right ovary was much enlarged, measuring two inches in length, and vertically it was an inch and a half. There was an opening on its anterior surface about the size of a fourpenny piece, the edges of which were smooth; and there was another opening on its lower border about the size of a shilling, the edges of which were ragged and everted. The ovary formed a regular cavity, in which, however, there was no pus posteriorly. There was found a corpus luteum about the size of a pea, which still retained some traces of vascularity; thus showing that this was the ovary from which the fetus came. On laying open the Fallopian tubes, the mucous membrane was found healthy. The great dilatation of the right one was only at the fimbriated extremity; but both tubes allowed a surgical probe to pass through them.

In order to ascertain whether fluid could pass through the tubes from the uterus, one of Higginson's syringes was inserted into the os uteri, and the cervix firmly compressed round it; then water was pumped into the uterus until the walls were nearly bursting, but none passed along the tubes, although a few drops oozed from the uterine veins.

I regret that the early history of this interesting case has been so imperfectly drawn up, owing to circumstances over which I had no control. For the post-mortem appearances I am indebted to Dr Aitken, Sir James Simpson's assistant, who kindly undertook the inspection. The dissection clearly shows that this was a case of cellulitis or pelvic abscess, complicated with extensive

peritonitis, which was obviously the cause of death; for cellulitis, uncomplicated, is rarely fatal. This circumstance explains, in some measure, why this disease has attracted so little attention in this country until a comparatively recent period. Indeed, the cases which I read to this Society, some years ago, were among the first that were reported in Edinburgh. The subject has been more prominently brought before the profession by Dr Mathews Duncan's very elaborate and able treatise, in which he describes the disease under the designations of perimetritis and parametritis—a distinction which is interesting enough in a pathological point of view, but which cannot be made out during life, and gives no assistance in regard to the treatment of this very insidious disease.

Dr Keiller said, that he had often brought his hospital cases under the notice of the Obstetrical Society, and thought it exceedingly desirable that every case of practical interest or importance should be recorded. He was sure that Dr Bell's reading cases which occur in the practice of the Maternity Hospital would add to the usefulness of that institution. He had seen the first case, and was asked to operate for vesico-vaginal fistula; but when the woman was put upon the table, it was discovered that there also existed occlusion of the urethra. Although there was a fistula, she was able to retain her urine for hours, so that, after consultation, it was agreed not to interfere by operation.

In regard to Dr Bell's next case, he was of opinion that the proper treatment had been suggested—namely, dividing the bands when the presenting part is pressing them down. He treated a case in Sir James Simpson's ward, in which there was a thick band in the vagina, and when labour came on, it was cut through with a bistoury whenever it was put upon the stretch.

He had also seen Dr Bell's case of cellulitis, and the peritonitic sac which was found after death was of an unusual character.

Dr Pattison recollected a case in which there was a band, and the forceps were applied, and the band torn through.

Dr Burn said he had met with several cases in which the head was obstructed by bands. In one case he had cut it through, and he thought it was best to do so when they did not give way readily before the advance of the child.

Dr Bryce said he had met with one or two instances of obstructing bands recently, but he did not require to divide them.

II. A THIRD CASE OF CONSECUTIVE SPINA BIFIDA. BY DR MENZIES.

On the 27th February 1867, I read to the Society a short notice of two cases of spina bifida, occurring in children born of the same mother ten and a half months between each birth, and which appeared in the *Edinburgh Medical Journal* for November 1867. Mrs G. was again delivered of a female child at the full period, on the 26th January 1868, having a very small sacral spina bifida. The tumour was of a livid colour, and continued slowly to increase, but the child appeared to suffer no inconvenience from it, and up to twelve months was as strong and healthy as ordinary children of the same age. After this time, however, the child became pale and thin, and the tumour became larger, having a pyramidal form, five inches around the base, and four from the base to the apex. At fourteen months it became greatly emaciated, and occasionally the eyes were suddenly closed, and breathing ceased for a second or two, but no convulsions took place. At these times the tumour was observed to become suddenly less, as if a portion of the fluid had passed up the spinal canal. Great exhaustion ensued, and the child died on the 1st of May, aged fifteen months.

Dr Bryce said, the first case of this kind he had met with occurred in November last. Sir James Simpson had seen the case, and expressed the opinion that no operation would do any good. The child died when about eight months old. He might mention, that two members of the same family

have disease of the bones of the spine, and in the case of spina bifida both feet were clubbed.

Dr Bell said he had met with a case of spina bifida complicated with club-feet.

Dr Pattison had a case of spina bifida, associated with hydrocephalus.

SESSION XXVIII.—MEETING XIV.

9th June 1869.—*Dr PATTISON* in the Chair.

I. *Dr Cairns* showed a specimen of a blighted twin, which had been removed from a patient immediately before the birth of a living child at the full time. He also showed a foetus with a well-marked club-foot.

Dr Keiller said, the first foetus shown was a very beautiful specimen of a blighted twin, which had been arrested in its development, moulded into the form of the uterine wall, and retained in utero; although, owing to the membranes being entire, it had not become putrid.

II. *Dr Keiller* exhibited, *first*, a specimen of an entire ovum, which had been expelled prematurely about the fifth month. He had been called to see the patient (who was a servant) some time since, and as she was suspected of being in the family-way he examined her breasts, and came to the conclusion that she was pregnant. She was taken prematurely in labour, had been sent to the Maternity Hospital, and soon gave birth to the ovum entire while standing in the ward. The afterbirth was still attached to the membranes, and the presentation had evidently been a breech one.

Dr Pattison said he recollected having seen a similar case, the foetus being about the sixth month.

Dr Keiller showed, *second*, a child which had been born a few days ago dead, the mother having laboured under dropsy and albuminuria. He had watched the case with some interest, in expectation that convulsions might occur; but under the use of diuretics, etc., she improved in health. The fetal movements were felt two days before labour came on. The patient was some eight or ten hours in labour, but had no convulsions.

Dr Keiller also exhibited, *third*, a placenta, in which the membranes were exceedingly entire, the bag having opened only at one point, indicating the seat of its rupture.

III. CASE OF SUDDEN DEATH AFTER DELIVERY. BY DR KEILLER.

Dr Pattison was of opinion that death had occurred from rupture of a large vessel.

Dr Cairns said he had attended a case which, though not puerperal, was almost identical in regard to the symptoms, and his opinion was, that there was some organic disease of the stomach and pancreas. After death the stomach was found filled with blood from rupture of a vessel.

Dr Fraser said, that had blood been poured into the stomach in *Dr Keiller's* case, that viscus would have been distended. He rather inclined to the opinion that the heart had given way.

Dr Zeigler thought that embolism might have accounted for the woman's death.

Dr Murray had seen a case in the Maternity where obstruction of the pulmonary artery had been diagnosed, but the patient survived.

Dr Andrew suggested that there might have been a rupture of the spleen in this case.

IV. CASE OF TRIPLETS. BY THOMAS DAVIES, L.R.C.P. ED., AND M.R.C.S. ENG., MOLD, FLINTSHIRE. COMMUNICATED BY DR CAIRNS.

On the 9th July 1862, I was called to attend Mrs W., aged 32 years; she had been in labour for some hours. She gave birth to twins two years and seven months previously, now alive and healthy. She had suffered from debility for some weeks, and was very large, and she expected to get twins. I laid her on her left side, and on examination found the head presenting, the

parts being well dilated; the membranes were now ruptured, and in half an hour from my arrival the first child (a boy) was born; the abdomen being now still large, on examination I could feel another child.

The pains now entirely subsided, and in half an hour afterwards I gave her a drachm of ergot, when they came on again in a short time, and soon afterwards a placenta was expelled by a strong labour-pain. I could feel a foot presenting, and in ten minutes after a second child was born (a girl), along with its placenta; and immediately after it the third child, enveloped in its membranes, complete, as also its placenta. Hæmorrhage followed, which soon yielded to cold affusion. She became very faint, with a very rapid small pulse and cold extremities. Brandy-and-water were given her, and she soon got round again. The binder was then applied, and she got on very well afterwards.

The first child lived twenty-four hours, the second six, and the third breathed in half an hour after being born, and lived six hours. There is nothing remarkable in this case, except the rarity of its occurrence, and at this period I had attended only about twenty cases of labour.

Dr Pattison observed that it was rather singular that a placenta came away after each child.

Dr Keiller said, that he had seen four cases of triplets, although he was not present at the birth of any but the first. He had, along with the late Harry Goodsir, put up as a dried preparation the placenta from a case of quadruplets which occurred in Fife. There was one placenta mass, with four partitions in it.

SESSION XXVIII.—MEETING XV.

23d June 1869.—*Dr Burn*, *President*, in the Chair.

I. CASE OF PELVIC HÆMATOCELE, WITH AN ILLUSTRATION. BY *DR AITKEN*.

This paper will be found at page 104 of the Journal.

Dr Cairns thought that, in such cases, the patient always complained of a bearing-down pain, and would like to know if this symptom existed in *Dr Aitken's* case.

Dr Aitken said that his patient had previously suffered from bearing-down from hypertrophy of the uterus.

Dr Keiller remarked that the drawing exhibited by *Dr Aitken* reminded him of a case he had seen, and a drawing of which he possessed. A patient of *Dr Graham Weir's*, who suffered from ovarian disease, was seized with acute pain in the left side, and rapidly sank from collapse. A dissection showed the left side of pelvis and Fallopian tube distended with blood, and this proved that the blood found in the peritoneal sac had come from the ovary. He believed extra-peritoneal hæmatoceles were exceedingly rare, and were often confounded with cases of parametritis. He had opened a few cases of hæmatocele, and the question was whether to open them or not, and when and where to open them? There was always danger of setting up peritonitis.

Dr Burn had just seen two cases. One became absorbed under the use of mercury, but the patient had never borne children since, although quite well. The other case he had lost sight of, but the symptoms had appeared suddenly.

Dr Aitken said that *Sir James Simpson* considered such tumours extra-peritoneal. They may open either by rectum or by the skin. All intra-peritoneal tumours must be opened by the vagina. They were bad enough when they did open by the vagina, but worse when they opened by the rectum. *Dr Duncan* had mentioned two cases in his work on the subject, which were the only cases which had been opened in this country.

In regard to intercourse during menstruation being a cause of such tumours, he believed that 7 per cent. of the French cases were so produced, chiefly amongst those who suppressed discharge by cold applications.

II. NOTES ON A CASE OF HYDATIDS. BY *DR RATTRAY*, PORTOBELLO.

On Saturday, 22d of May last, I was asked to see *Mrs F.*, who came in from the country to spend a few days with her friends in Portobello, and to get advice regarding her health, as she felt unwell since the beginning of this year.

She is a stout, healthy-looking woman, and of sanguine temperament. Her age was 50 years last October. Has never had any former illness. She has had nine full-grown children, the eldest of whom is twenty-seven years, and latterly two miscarriages. Her husband is quite healthy; he is a gardener to trade, and is of the same age as herself. About the commencement of January, she informs me, her "courses ceased;" shortly thereafter her attention was directed to the right side, in consequence of a dull, peculiar, aching pain, accompanied with swelling, which gradually increased to such an extent that she had to undo her dress in the evenings. On examining the abdomen, I detected a distinct hard and circumscribed uterine enlargement. After still more careful examination, no fetal movements could be felt, nor foetal cardiac pulsations heard. The mammae were slightly increased in size; no fever existed. The areolae were dark. Now and again, there was a tendency to nausea in the mornings. These negative results led me to infer, this was not a case of pregnancy. On vaginal examination, no "ballotement" existed. The vaginal canal was hot, flabby, and moist, and the os uteri congested and dilated to the size of a shilling. Since the first setting in of her illness, a very fetid discharge, at one time dark-brown, sanguineous in colour, at another time pale, was constantly coming, as she said, "from the womb." Some few weeks ago, oedema of the legs threatened to prove troublesome; but it passed away without any active measures being used. Antecedent to the date of commencement of her present ailment, the bowels were most regular, and so was also urination. Since the first week of February, she only had motion once in the eight days! Having scruples in my mind as to the exact nature of this "uterine swelling," whether it was a "tumour" or hydatid mass; and as my patient was to be living here only for a short time, before adopting any special plan of treatment, I sent her to my excellent and learned friend Dr J. Matthews Duncan. On Wednesday, 26th May, he detected the uterine tumour, but bearing in view the age and obstetric history of the patient, he did not suspect its real cause.

27th.—To-day, I prescribed \mathcal{R} potass. iodidi \mathfrak{z} i.; aq. distillatæ \mathfrak{z} vi. \mathcal{M} . Sig. \mathfrak{z} ss. ter in die. I also gave her aperient pills, *i.e.* \mathcal{R} extracti belladonnæ gr. $\frac{1}{4}$; pil. hydragryi gr. $\frac{1}{2}$; mass. pil. colocynth. et hyoseyami; extracti gentianæ aa gr. ii.; fiat pil. i., mitte tales viginti quatuor. Sig. Pil. un. bis die. The urine is voided freely; it is opaque, semi-chylous in colour; of acid reaction, and accordingly reddens litmus paper. Sp. gr. 1027. Odour most disagreeable. Chlorides normal, and no albumen.

28th.—This morning at 7 o'clock, I was sent for hurriedly. I found Mrs F. pale, faint, and almost pulseless from profuse hæmorrhage, which almost passed through a blanket thrice folded, two petticoats, and a mattress, etc., etc. I examined the os uteri; it was the size of half-a-crown. I applied compression and cold cloths to vagina, and gave five grains of ergot in half an ounce of cinnamon-water every two hours, as well as beef-tea (strong) and wine. Perfect rest and quiet were also inculcated. All night she was disturbed with short griping, bearing-down pains in back and belly; and at 5 A.M. (two hours before I saw her) she was seized in a moment with severe pains and flooding, which she compared to nothing but "labour pains." The abdomen felt loose, flaccid, and tender. At 11 A.M. I again called; Mrs F. looked wretched and anæmic, and bathed in a cold, clammy perspiration, with feeble and intermittent pulse; furred tongue. She was sitting on the chamber flooding profusely, after having expelled some "lumps," as she called them. In addition to large clots of blood, I found a semi-gelatinous mass of considerable size, which is before you. "attached to a central part, like grapes attached to the stalk," as Dr Churchill well expresses it. On a moment's reflection, it struck me this was a case of hydatids. No vestige of either fœtus or part of one could I find, however. The case I now treated as if it were one of ordinary labour, and as she was suffering from acute pain, she got an opiate.

29th.—Has had a good night; lochial discharge pretty free; pulse 76. firm; diet beef-tea and arrowroot, etc. As Dr Duncan was seeing a patient with me to-day in consultation, I showed him the hydatids; and by a note from him of 6th inst., he says, "The hydatids are of ordinary kind, hyda-

tigenous degeneration of the chorion. I could see plenty of membranes, but no trace of foetus."

30th, 10 A.M.—Steadily improving; pulse 72; slept the greater part of the night; tongue moist and clean. Owing to the bowels being bound four and a half days, I ordered one ounce of castor-oil, which produced a copious stool in a short time. Os uteri admits easily three fingers, and small pieces of hydatids are to be felt, but too high to seize hold of. Knowing that no satisfactory results could be obtained so long as these remained in utero, I gave R pulv. ergotæ \mathfrak{z} ss.; aq. cinnamoni \mathfrak{z} vi. M. Sig. \mathfrak{z} ss. tertiâ quaque horâ.

31st.—Rapidly advancing towards recovery; had an excellent night; pulse 66, and regular. Slight coating on dorsum of tongue, edges healthy. Respiratory and circulatory systems perfectly healthy.

1st June.—Uterine contractions, accelerated by the scruple doses of the ergot, have now expelled the remainder of the diseased mass; ergot therefore left off. As she is weak, three glasses of wine *daily* in addition to beef-tea, etc., are ordered; pulse 68; tongue clean; bowels, etc., free.

2d.—Sat up in bed to-day for a very short time, and feels better. Uterus is assuming natural position and dimensions; no pain complained of; discharge is nil; pulse 78; merely ordered a dose of castor-oil.

3d.—Uninterrupted improvement.

4th.—Much to the delight of all parties, Mrs F. was able to get out of bed to-day for an hour. The appetite is good. Chicken-soup for two days; pulse 86. Tongue indicates slight derangement of stomach, for which two of the pills (aperient) above-mentioned (*of date May 27*) were taken.

5th.—Bowels effectually moved.

7th.—For the first time my patient has been to the garden. I have only given orders this afternoon to begin the iodide of potassium, as Mrs F. was not in a state for it hitherto. After a brief conversation, I stated I hoped the malady was now wholly eradicated. At Dr Duncan's request (to-day, the 8th) she visited him. He writes me to this effect:—"The uterine intumescence is quite gone. Continue the iod. potass."

9th.—For the last time I saw Mrs F., as she goes home to-morrow (10th inst). It was an inexpressible pleasure to mark the change. She was very cheerful, attending to some minor domestic duties. There is no trace of a tumour now. Os uteri is quite contracted.

My principal reason for troubling this Society with the details of this almost unique case is, that I do not recollect ever having met with a similar one: a female continuing to menstruate till beyond her 50th year, and capable of conception. In passing, I may remark that, nine days ago, I had seen a woman above 48, who is still menstruating regularly.

Dr Churchill, in his work on Diseases of Women and Children, 5th edition, page 234, says—"The period of this great change (cessation of menstruation) is about the age of 45 or 50. I have seen it cease naturally with the usual symptoms soon after 30, on the one hand, and not until 54 on the other. From my observation, I should say, that menstruation oftener goes on until æt. 50, than stops at 45." Again, at page 248, Dr C., referring to hydatids, says—"That there may be a form of them, not the result of impregnation. Yet, in the majority of cases, it is probable that moles, properly so called, whether blighted conceptions, fleshy moles, or hydatids, are truly consequent upon sexual intercourse and impregnation;" and also that the age at which these morbid growths generally occur (page 284) varies from the entrance upon the full performance of the sexual functions to the cessation of menstruation. If moles be discharged after that period, we may be assured they were generated previously.

The same distinguished accoucheur, in discussing this subject, whether these moles are the result of conception or not, cites the views of others, some of whom believe, others doubt its possibility. Thus, "Lamzweerde asserts that they cannot be produced 'sine copula maris.'"

And Dr Montgomery entertains a similar opinion. "Rynsch speaks of moles discharged from maids and old women, . . . but such were evidently fibri-

nous clots." "Puzos supposes them to be degenerated conceptions." "Sir C. M. Clarke and Gardien think hydatids may be found without previous sexual intercourse; and Dr Evory Kennedy affirms that they may occur in virgins."

Dr J. M. Duncan's opinion is that the disease is always a result of conception, and that it consists in a dropsy of the chorionic villi, which, besides undergoing growth and distention with fluid, also give out branches or new growths, which degenerate into watery sacs like their parent stems. I believe that the disease may cause death of the embryo, and that, on the other hand, it may not come on till after death of the embryo.

My friend Dr Hill, a gentleman of large experience, who has been practising in Portobello for nearly forty years, informs me that he does not remember having had or seen a case of hydatids for a very long time. Before concluding, I shall only make one more reference, and that is to a case of Sir J. Y. Simpson's, which he showed to the members of the Obstetrical Society in May 1847. It was of the nature of hydatigenous degeneration of the ovum, the particulars of which may be seen in the "Monthly Journal of Medical Science" for the same year, at page 868. The patient's age, however, he did not mention.

Gentlemen, the interest attached to this case is my only apology for the length of this *imperfect* paper. Still I trust it may elicit the opinions of some present as to the nature and cause of these morbid productions,—my own view being, if I may be allowed to state it, that they are the result of "blighted conceptions."

Dr Keiller remarked, that Dr Rattray's preparation did not clearly exhibit the usual appearances of hydatids. He believed that Dr Duncan's opinion in regard to such cases was the proper one—namely, that such productions were actually the result of conception. Hydatiginous ova were by no means uncommon, and many specimens had been shown to the Society. He himself had numerous preparations of the kind in his museum, and he had repeatedly exhibited specimens and reported cases to the Society. According to his experience, it was not so very uncommon for women to menstruate at fifty years of age.

Dr Aitken said that if it had not been for Dr Duncan's opinion, he would have been inclined to doubt that the preparation shown was hydatids at all.

Dr Burn remarked, that it should be remembered that the specimen had been long kept. He had met with many cases of hydatids, and had seen them in thousands. He did not see what good could have been expected in such a case from the administration of five-grain doses of the ergot. He recollected one case where a woman was seized with flooding; and, on examination, a soft mass resembling the placenta was felt through the dilated os. An enormous mass of hydatids was expelled, and the woman died in about twenty minutes from loss of blood. In such cases as that related by Dr Rattray, he sometimes dilated with sponge-tents, and then gave ergot in teaspoonful doses.

III. NOTES OF A CASE OF OVARIAN DROPSY. BY THOS. L. M'MILLAN, M.D. COMMUNICATED BY THE PRESIDENT.

About twelve years ago, I was consulted by Miss H., on account of a peculiar enlargement of the abdomen, which gave her much anxiety, as it was gradually increasing. At this time the patient was 42 years of age; and in addition to the swelling, which was her chief anxiety, she was labouring under a form of chronic bronchitis, which had commenced simultaneously with the swelling. She was thin and emaciated, with a somewhat cyanotic, and very anxious expression of countenance. I examined her carefully, and my opinion was that it was a case of *ovarian dropsy*, the nature of which I explained to her, and gave her advice with a view to the relief of her breathing, and the benefit of her general health. The case had altogether a bad aspect, and my impression regarding it was very unfavourable. At this stage of the case, I went abroad; and on my return to Edinburgh a few months ago, after ten years' absence, my old patient was one of the first persons I recognised on the street, but she was so much altered, and improved in appearance, that I stopped her to make some inquiry, and get some explanation of the change, when she gave a nar-

native of which the following is an outline :—She told me that after I left, she continued to grow worse and worse ; she went to dispensaries, consulted several doctors in Edinburgh and Leith, and also a medical gentleman from London ; all of whom were agreed as to the *nature* of the disease, but no medicine or treatment which she received was of any avail. At length, one day in October 1864, she had been down seeing a sister in Leith, and was returning by the Bonnington Road. She had arrived at a point somewhere on the Edinburgh side of the cemetery, where the road is narrow and walled in on either side, when she heard an unusual noise ; and on looking in front, to her great horror and dismay, she saw two runaway horses with carts advancing towards her at a rapid rate. She instantly turned and ran towards Leith with all the speed she could command, the horses gaining rapidly upon her. At length, when nearly up to her, the last horse tried to get alongside of the first one ; thus the whole breadth of the road was occupied, and there was no escape for poor Miss H. At this critical juncture, the carts, which were laden with stones, became entangled, and one of them upset. Miss H. was knocked down, and gave herself up for lost ; luckily she fell in the gutter, alongside the foot-path. Either the wheel or edge of the capsized cart fell right across her body, but was prevented from killing her instantly by the rise of the sidewalk. Of course she thought her end was come, and for a moment she felt an agonizing sense of being crushed to death, and suffocated ; for her face and mouth were embedded in the mud of the road. Help was at hand, and she was soon extricated from her perilous situation. When taken up she was in a state of insensibility, and remained unconscious for some days. The first thing she noticed on recovering her senses was, that *the large tumour in her stomach was gone* ; and she called the attention of her friends to this extraordinary circumstance. Of course it was a source of great satisfaction to her, as well as wonder. Beyond a few severe bruises, and the shock to her nervous system, she received no serious injury. She was confined to her bed for six weeks, during which time she had a severe cough, with a very copious expectoration of purulent-looking matter. This gradually ceased, and she recovered, and with *the tumour* entirely gone ; she became restored to a condition of *perfect health*, to which she had been a stranger for many long years. In short, by this accident she was perfectly cured of all her ailments. This narrative would be incomplete were I not to mention, that Miss H. was so deeply impressed by her deliverance from what seemed to be almost certain death, and by the fact that she had been at same time cured of what seemed an incurable disease—all of which seemed so wonderful an interposition of Providence on her behalf, that she determined to devote the life which had been so singularly spared to the cause of religion and the propagation of the Gospel.

True to her resolution, she is now a most useful Biblewoman, or missionary, under the Ladies Dundas, at South Queensferry, and in the enjoyment of excellent health, without even a trace of her former ailment.

The singularity of this case is my only apology for bringing it before this Society. It is interesting to think, that a disease which is almost never got rid of without a most formidable operation, should be cured somewhat in the same manner as we cure a ganglion on the wrist or back of the hand. There may be some doubt as to whether this was a cure of true ovarian dropsy, or a large hydatid cyst ; but whichever of these it might have been, the *mode* of cure was remarkable ; and the whole case appears to me to be one which affords matter both for reflection and discussion.

Dr Koiller said, cases of a similar kind had been recorded, in which rupture of the ovarian cyst had occurred and the fluid had been effused into the peritoneal sac, and gradually absorbed. In other cases the fluid had escaped by the vagina.

Dr Murray was of opinion that, if there had been rupture of the cyst in *Dr McMillan's* case, there would have been some more serious symptoms. He had met with a case in which the dropsy had spontaneously disappeared.

Dr Ritchie said that he had been watching, by deputy, the case of an insane lady in London, who suffered from ovarian dropsy ; and who, at times, had great discharges of water from the vagina.

Part Fourth.

PERISCOPE.

MEDICINE.

M. CHARCOT ON PARALYSIS AGITANS AND INDURATED (SCLEROSSED) PATCHES.

M. CHARCOT directs attention to the importance of the distinction of cases of tremors into two classes or groups: the first comprehending those cases in which tremors occur only during an intentional or voluntary movement; the second including the cases in which the tremors are constant, or at least cease only during sleep. The latter group constitutes the paralysis agitans. In each group there are numerous species, presenting considerable differences. This distinction of the convulsive tremor (*tremor coactus*) from the simple trembling due to weakness (*tremor a debilitate*), is mentioned by Galen, and was insisted on by the medical writers of last century; but, notwithstanding its importance, was, till recently, overlooked by modern authors. Gubler has shown that the spasmodic tremors are often due to alternate jerking contractions and relaxations of the muscles, by which movements are affected, or the attitude of the body preserved (*Astasie Musculaire*; *Arch. Gén. de Méd.*, 1860, t. xv. p. 702).—In recent treatises, as Trousseau's (2d edit.), Grisolle, Sanders in Reynolds's "System of Medicine," these distinctions are fully recognised. But M. Charcot maintains that true paralysis agitans, in which the tremors are convulsive and permanent, is a neurosis (*i.e.*, does not depend on any material morbid lesion): while the occasional tremors, during voluntary acts, are the result of indurated (sclerosed) patches scattered in various parts of the spinal cord. M. Charcot then enters into a description of the symptoms of the paralysis agitans, as observed at the Salpêtrière, and, in addition to the tremors and tendency to move forwards, so graphically described by Parkinson, insists on the rigidity of certain muscles in the neck, trunk, and extremities, and describes the deformities which result in the hands and wrists. The author notes also the difficulty and the retardation in the execution of voluntary acts, giving a semblance of paralysis, while the dynamometer shows that the muscular strength is remarkably preserved—often greater in the limb which trembles most and seems weakest. This rigidity often occasions painful cramps. One symptom which M. Charcot has not found mentioned in previous descriptions is a habitual sensation of excessive heat. This feeling is entirely subjective, the actual temperature not being increased. Indeed, the absence of any elevation of temperature is surprising, when the amount of muscular motion is considered. This M. Charcot ascribes to the dynamic character of the contractions; static (*i.e.*, with predominance of tonic) contractions only raising the temperature to a notable extent. As yet no alterations in the urine, similar to those observed in chorea and delirium tremens, have been observed: this desideratum M. Charcot intends to supply.—*Gaz. des Hôp.*, 29th April and 25th May 1869.

[This distinction of paralysis agitans from the tremors due to sclerosed lesions of the spinal cord, if confirmed, is very important; but M. Charcot takes no notice of the fact, that these sclerosed patches have been found in cases of true paralysis agitans, as recorded by Oppolzer, Skoda, and others; and M. Charcot's lecture does not supply detailed proof of his statement in opposition to the previous evidence on the subject. Although, no doubt, numerous autopsies in cases of paralysis agitans are recorded in which no material lesion was found, the same may be said in regard to the simple tremors connected with senile debility. But until the spinal cord and nerve centres are systematically examined in the fresh state, and prepared after the manner of Lockhart Clarke, our information cannot be considered complete or conclusive on these points.]

SURGERY.

TREATMENT OF SYPHILIS BY HYPODERMIC INJECTIONS OF MERCURY.

THE Royal Society of Medical and Natural Sciences at Brussels received a communication from Dr Oscar Max-Van Mons, of Pachécho, on this interesting subject. The account is very incomplete, nothing having been said either as to the dose given or the *modus operandi*. Five cases were treated. Not more than three separate injections were required in any one of them. The cure was complete, or nearly so, in three weeks in the longest. The reporter claims for this method great cheapness, ease, and rapidity. We, however, will wait for more facts before pronouncing definitely on the real advantages of this method of treatment.—*Gazette des Hôpitaux*, No. 21, 1869.

ON THE EMPLOYMENT OF CALABAR BEAN IN THE TREATMENT OF TETANUS.
BY M. BOURNEVILLE, INTERNE OF THE PARIS HOSPITALS.

[Though the following case was unsuccessful in result, it seems worthy of quotation, in an abridged form, as a contribution to this most interesting subject.—NOTE BY TRANSLATOR.]

THE Calabar bean, since its introduction into practice not many years ago, has been administered in many different diseases, but chiefly in those of the nervous system. This is natural, as the remarkable physiological phenomena induced by the Calabar bean chiefly affect the nervous system. In 1866, during my residence in the Salpêtrière, I administered the Calabar bean to epileptics, under the direction of M. Delasiauve. Our results were not very encouraging, but will be published. The case now to be noticed is one in which we had the opportunity of using the Calabar bean in tetanus resulting from a penetrating wound of the knee.

A. M., æt. 9, was admitted to hospital on June 6, 1867. In attempting to leap on a lorry he had missed his footing, and caught his right leg between the spokes of the wheel. He had a wound of the right knee, and a bruise of the right ankle. The child had had repeated fits in infancy, which had very much interfered with his health. He, at six years of age, had scarlet fever, followed by albuminuria.

7th June.—The child was put under chloroform, and the wound dressed. It was found to communicate freely with the knee-joint. He had a bad night, restless and sleepless.

11th and 12th.—Limb swollen; wound discharging foetid and serous pus. Pulse hard and strong; no appetite. Parents object to amputation.

16th.—To-day new symptoms appear; risus sardonicus; slight contractions of the orbicularis palpebrarum; pain in the jaws. At last leave was obtained to amputate the thigh, which was done on June 17. The nervous phenomena diminished towards evening.

18th.—Bad night; tetanic symptoms aggravated; muscles of neck have become stiff. Ordered powdered Calabar bean, three-fourths of a grain every hour in pill, and an equal quantity of the extract every two hours.

Vesp.—Symptoms as before.

19th.—During the night the child had taken, in divided doses, an emulsion containing fifteen grains of the powdered bean, and had slept three hours consecutively. Dose to be repeated during the day.

Vesp.—Symptoms all again aggravated; perspiration abundant; urine scanty.

20th.—A better night; slight opisthotonos. Patient had had no bean since 11 P.M. To have 22½ grains of the powder, with tea and rum, during the day.

Vesp.—Tetanic symptoms decidedly better. Repeat the dose of the bean.

Midnight.—Rapid movements of all the limbs and in the flap, causing it to bleed; a distinct rigor.

21st.—Tetanic symptoms much worse; jaws closed; swallowing difficult; opisthotonos. The Calabar bean was not repeated. The child died in the evening.—*Gazette Médicale de Paris*, No. 8, 1869.

TRACHEOTOMY IN CROUP AND DIPHTHERIA IN PARIS.

WE extract the following remarks from the report on the diseases prevalent in Paris during January and February :—

Diphtheritic affections have been numerous and severe, the infectious nature of the disease well marked, and the mortality excessive. At the *St Eugénie*, under the care of M. Barthez, of seven cases in January, all died; and of seven in February, all died. The fourteen, except one, had tracheotomy performed. Nearly all were found at the autopsy to have broncho-pneumonia. Under the care of M. Bergeron, out of six cases of croup (in February), only one survived, —a child, four years of age, which was treated by cubebs; the other five were tracheotomized, and died. At the *Children's Hospital*, five cases of croup were operated on in February. One was cured, another still under treatment, the rest died. At the *St Antoine*, under the care of M. Buequoy, there were four cases of diphtheria under treatment. Two of croup had been operated on, and died of broncho-pneumonia.—*Gazette des Hôpitaux*, No. 36, 1869.

CARBOLIC ACID AS AN ANTISEPTIC DRESSING.

DR W. MACCORMAC, of Belfast, reports a series of very interesting cases treated by Professor Lister's method. It includes five cases of compound fracture and dislocation, one wound of the knee-joint in an intemperate man, æt. 45. one very severe injury to the wrist in a boy, and one amputation of the thigh. In all, the results were highly encouraging. The following remarks conclude the paper :—

“The conclusions I am disposed to draw in respect to the surgical uses of carbolized dressings are, *first*, that by these means those conditions which promote the formation of pus are sometimes wholly prevented, at other times greatly diminished in power; and that when pus is found, it proves quite innocuous, not prone to decomposition, and not injuring the wounded surface with which it is in contact. *Secondly*, I think the amount of pus is diminished when suppuration does occur. *Thirdly*, I have been much struck by the absence of those results of serious injuries so apt to ensue, both in the neighbourhood of the wounded parts and constitutionally. I have observed, over and over again, the almost total absence of pain, inflammatory swelling, and surgical fever, where such might otherwise have been expected to occur. In extensive injuries, involving the deeper-seated parts, it has appeared to me, carbolized dressings being resorted to, that those structures heal more readily, and that the wound soon becomes merely superficial, a granulating surface closing in, and protecting the tissues beneath. When this result is attained, it then becomes no longer necessary to continue so rigidly the antiseptic treatment, and the wound may be treated like any ordinary superficial ulcer, with such applications as may appear best suited to promote healing, amongst which the carbolized lotion should occupy a high place. *Fourthly*, I am disposed to believe that pyæmia will become comparatively of rare occurrence; but, to establish this as a certain fact, will require a very long series of observations. The theory that Professor Lister offers to account for all this, is one of great simplicity, and one which so far explains the facts observed; and until one more satisfactory shall be offered, we are perhaps bound to accept it. However, be it true or false, by acting strictly in accordance with its requirements, the surgeon will, I believe, procure results which he could not otherwise anticipate. I think the candid and truly scientific manner in which Professor Lister has promulgated his discovery is deserving of great praise. It is now for surgeons to examine into his claims in an impartial and scientific spirit. It is only I would add in conclusion, by a largely extended and carefully contrasted experience that such claims can be fairly and sufficiently tested. For this reason, I have come to the conclusion, that the results at which I have hitherto been able to arrive, in respect of the uses of carbolic acid in antiseptic surgery, are deserving of the consideration of the readers of this journal.”—*Dublin Quarterly Journal* for February 1869.

Part Fifth.

MEDICAL NEWS.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

MINUTES OF MEETING, *Thursday, July 1, 1869.*

Present—Dr Burrows, *President*, in the chair; Dr Bennett, Mr Hawkins, Mr Cooper, Dr Acland, Dr Paget, Dr Embleton, Dr Storrar, Dr Alexander Wood, Dr Andrew Wood, Dr Fleming, Dr Macrobin, Dr Thomson, Dr A. Smith, Mr Hargrave, Dr Leet, Dr Apjohn, Sir D. Corrigan, Bart., Dr Sharpey, Dr Parkes, Dr Quain, Dr Rumsey, Dr Christison, Dr Stokes. Dr Francis Hawkins, *Registrar*.

The minutes of last meeting were read and confirmed.

1. *Read*—An order of Her Majesty in Council, appointing Dr John Macrobin to be a Member of the General Medical Council for the Universities of Edinburgh and Aberdeen. Dr J. Macrobin was introduced by Dr Alexander Wood.

2. After an opening address from the President, the following Committees were appointed:—

Business Committee.—Dr Andrew Wood, *Chairman*; Dr Embleton, Dr A. Smith, Mr Cæsar Hawkins, Dr Leet.

Finance Committee.—Dr Sharpey, *Chairman*; Dr Quain, Dr A. Smith, Dr Fleming, Mr Cooper.

Committee on the Registration of Medical Students, and the Returns from the Bodies in Schedule (A) of Professional Examination and their results.—Dr Embleton, *Chairman*; Mr Hawkins, Dr Fleming, Dr Thomson, Dr A. Smith, Dr Sharpey.

3. *Read*—The following communication from the Lord President of the Council regarding the Amendment of the Medical Acts, which was ordered to be entered on the Minutes:—

Medical Department of the Privy Council Office, May 14, 1869.

Sir,—With reference to the Draft Bill which you recently brought under the Lord President's notice, as proposed by the General Council of Medical Education and Registration, for amendment of the Medical Act, 1858, his Lordship directs me to inform you that, with every wish to assist the Medical Council in accomplishing its important duties, he does not feel that he could undertake to bring the proposals of the Draft Bill separately before Parliament, as a measure recommended by the Government, unless he regarded them as covering all the ground where amendment of the Medical Act is wanted; for, considering that the Act has at present been more than ten years in operation, the Lord President presumes that a fair judgment can now be formed on its success and merits as a whole, and he thinks that a judgment of this more comprehensive sort must be the basis of any amending Bill to be introduced on the part of the Government. The Lord President would be glad to have the fullest possible explanations with the General Council on this larger aspect of the case, and, though the requisite consideration could not be given to the subject in time for legislation in the present far-advanced session of Parliament, his Lordship would hope to be able to deal with it next year in the light of such information as he may meanwhile receive.

On the present occasion the Lord President does not propose to enter minutely on the question of the working of the Medical Act, but there is one point which his Lordship would wish to bring specially under your attention. His Lordship is advised that the Act is seriously defective, as not providing

for a satisfactory and uniform minimum standard of admissibility to the *Medical Register*, and as not enabling the General Council to issue Regulations in this respect. The state of the law in the United Kingdom (unlike that which obtains generally in Europe in the same matter) allows a minimum qualification in Surgery to be registered without any qualification in Medicine, and similarly a minimum qualification in Medicine to be registered without any qualification in Surgery; and, so far as may be judged from a recently published analysis of titles contained in the *Medical Register*, it would seem that persons practising on those half-qualifications are to be counted by thousands in the United Kingdom. Cases are not unfrequently brought under his Lordship's official notice where persons possessing only such half-qualifications undertake nevertheless to act in all departments of professional practice, and even obtain engagement as salaried attendants on the sick poor in relation to whatever disease or injuries may affect them. The Lord President regards this state of things as open to serious objection, and his Lordship doubts whether Government could sanction any amendment of the Medical Act which should leave so great an existing evil undealt with. The Lord President is, of course, aware that, at the present time, most of the Examining Boards which confer half-qualifications voluntarily extend their examinations beyond the limits of their titular qualification: but his Lordship doubts whether that mode of action, at its best, can supply more than a very imperfect substitute for complete legal qualification, and whether, if it were universal and permanent, it would not itself tend to develop considerable new difficulties.

The Lord President understands that the General Council will now very shortly enter upon its annual session in London, and he accordingly directs me to suggest that, perhaps, you would bring the above branch of the subject under the particular consideration of the Council, with a view to his being favoured with any recommendation which the Council may be disposed to make in regard of it.

His Lordship further directs me to suggest that the same opportunity would be favourable for eliciting the opinion of Members of the Council, whether, if new legislation is to take place, it would be desirable to change in any respect the constitution of Council which the Act of 1858 established.—I have the honour to be, Sir, your obedient servant,

JOHN SIMON.

Dr Burrows, F.R.S., President of the General Medical Council.

4. *Read*—The following communication from the Garioch and Northern Medical Association, respecting the representation of the Profession in the Medical Council, which was ordered to be inserted in the minutes:—

Inverurie, Aberdeenshire, May 1, 1869.

To the President and Members of the General Council of Medical Education and Registration of the United Kingdom.

Gentlemen,—At a meeting of the Garioch and Northern Medical Association, held here this day, the subject of the want of direct representation of the Medical Profession in the General Medical Council was considered by the Society, and it was resolved to communicate to you the opinion of the Society, that provision for such representation should be made in any amendment which may be proposed on the Medical Act.

The Association begs leave respectfully to submit the following statement and reasons in support of this opinion.

As the Council is now constituted, three-fourths of its members are elected by the Licensing Corporations, the remaining fourth being nominated by the Crown. The result of this constitution of the Council is that the interests of the Licensing Bodies are represented rather than those of the Medical Profession at large. The admitted evil of so many Examining Boards (nineteen in number) conferring Diplomas by equally numerous and sometimes conflicting examinations is thereby perpetuated. Besides the inconveniences to the student, and the obstacles thus created to a better system of Medical Education, the standard of Preliminary and Professional Examinations cannot

be raised, as the competition among so many Licensing Bodies is naturally a competition downwards.

Moreover, the funds by which the expenses of the Medical Act, including those of the General Medical Council, are met, are provided not by the Licensing Corporations nor by Government, but by a direct tax on the members of the Medical Profession. Thus those are represented who are not taxed, while those who are taxed are not represented.

One of the methods by which it has been proposed to accomplish the object in question, is by adding to the Council members elected by the direct votes of registered practitioners, arranged in districts. In the event of this method being adopted, the members thus elected, together with those nominated by the Crown, should not be less in number than those elected by the Corporations.

The other method which has been proposed is that the representatives of the Corporations, instead of being elected, as at present, by the Governing or Admitting Body, should be elected by the members or graduates; those for the Colleges by the fellows, members, or licentiates; those for the Universities by the graduates.

The latter would be at once the more simple and the more complete of the two methods. It would avoid increasing the number of the Council; it would require simply a declaration to the effect that all registered members, or graduates, of the Corporation shall be entitled to vote in the election of its representative; and by it there would be secured the representation both of the profession at large, and of what is good and of public interest in the Corporations.

The Association, therefore, respectfully expresses the hope that, in any amendment of the Medical Act, clauses will be inserted by which the object in question,—the direct representation of the profession in the General Medical Council,—will be secured.—I have the honour to be, Mr President and Gentlemen, your obedient servant,

(Signed by order of the Association) JOHN STRUTHERS, *Chairman*.

On the motion of Dr Fleming, seconded by Dr Alexander Wood, a Committee was appointed to consider the Reports of the Branch Councils on the subject of a Board or Boards for conducting Preliminary Examinations, and to report their suggestions on the subject,—the Committee to consist of Dr Alexander Wood, *chairman*; Dr Bennett, Dr Paget, Dr Storrar, Dr Fleming, Dr Leet, Sir D. Corrigan, Bart.

MINUTES OF MEETING, *Friday, July 2, 1869.*

Dr Burrows, *President*, in the Chair.

On the motion of Dr Andrew Wood, seconded by Mr Cæsar Hawkins, a Committee was appointed to consider the question of the Amendment of the Medical Acts, to whom the communication from the Government on the subject should be referred,—the Committee to consist of the President, Dr Bennett, Mr Hawkins, Dr Paget, Dr Andrew Wood, Dr Apjohn, Sir D. Corrigan, Bart., Dr Parkes, Dr Quain, Dr Christison.

On the motion of Dr Paget, seconded by Dr Andrew Wood, the communication from the Garioch and Northern Medical Association, and the letter of Dr Prosser James, were referred to the above Committee.

These letters were ordered to be placed on the minutes.

MINUTES OF MEETING, *Saturday, July 3, 1869.*

The minutes of the last meeting were read and confirmed.

1. Dr Acland presented the Second Report of the Committee on State Medicine, with an Appendix.

2. Petition read:—

Unto the Right Honourable the General Council of Medical Education and Registration of the United Kingdom, the Petition of the Lothians Medical Association, humbly sheweth,—

1. That your petitioners are registered Medical Practitioners residing in the Lothians of Scotland, and united together as an association for the promotion of professional fellowship and the protection of the interests of Medical men practising in these districts.

2. That your petitioners are pained to observe that the profession generally are unrepresented in the Medical Council.

3. That your petitioners do not regard the representatives of the Universities, nor of the Licensing Bodies, nor those gentlemen nominated by her Majesty, with the advice of the Privy Council, as real representatives of the profession at large.

4. That your petitioners observe that the funds by which the whole machinery of the Medical Act, including the General Council, are derived not from the Universities and Corporate Bodies, nor from the Government, but from a tax imposed upon each graduate or licentiate in Medicine and Surgery registered under the Medical Act.

5. That such taxation, without commensurate representation of the body of practitioners possessed of education and occupying precisely the same status under the Act as the Professors of the Universities or the Fellows of Colleges, is an act of injustice to the great body of registered Medical practitioners throughout the country.

6. That your petitioners beg to direct the attention of the members of the Medical Council to this anomalous state of the representation of the profession in the Council, and pray that in any amendment of the Medical Act such clauses may be introduced, as shall secure for the general body of practitioners throughout the country a representation in the Medical Council in some degree commensurate with their numbers, and with the very large sum they have collectively contributed towards the working of the Medical Act.

(Signed) J. T. SIMPSON, *President*.

On the motion of Dr Paget, seconded by Dr Andrew Wood, the Petition from the Lothians Medical Association was received and entered on the minutes, and referred to the Committee on the Amendment of the Medical Acts.

3. Returns of Examinations from the Medical Departments of the Army and Navy, and from the India Office, were laid before the Council, and were ordered to be entered on the minutes.—*See next page.*

The following Report of the Board of Examiners on the Examination of Candidates for the Medical Service of the Royal Navy during the year 1868, was transmitted by A. Armstrong, Director-General :—

EXAMINATIONS FOR ADMISSION TO THE MEDICAL DEPARTMENT OF THE NAVY.

12th February 1869.

Sir,—In forwarding for your information a synopsis of the subjects embraced in the Examination, held in the year 1868, for admission to the Medical Department of the Navy under your direction, we have the honour to report that forty-three examinations were held, and thirty-five admissions were granted.

There were in all thirty-seven candidates, of whom one, rejected in 1866, was found sufficiently qualified, and thirty-six were fresh men. Of these thirty-six, twenty-eight succeeded on their first examination, and eight were remanded to their studies.

Of the last eight, six passed on second examination, and two did not reappear.

The causes of rejection were general professional deficiencies, especially in anatomical and practical knowledge.

Of the thirty-seven candidates, seven were found well acquainted with the

Latin language; but the great majority of the remainder declined to undergo any examination in that language.

We consider the average abilities and attainments of the candidates in 1868 were not superior to those of preceding years.—We are, etc.,

JAMES SALMON, M.D., *I.G.*

WILLIAM R. E. SMART, *D.I.G.*

JOHN DENIS MACDONALD, M.D., F.R.S., *S.S.*

Dr Alex. Bryson, C.B., F.R.S., *Medical Director-General.*

Statement of the Degrees, Diplomas, and Licenses of the Candidates for Commissions in the Medical Department of the Army, who in August 1868 presented themselves for Examination, showing the number that passed, and did not pass, distinguishing the Qualifications, both Medical and Surgical, under the heads of the several Licensing Bodies.

NAMES OF LICENSING BODIES.	QUALIFICATIONS.				
	No. of Qualifications.			Deficient in	
	Total.	No. passed.	No. failed.	Anatomy.	All Subjects.
Royal College of Physicians of London, Licentiate	1	1	...	...	...
Royal College of Surgeons of London, Members	5	4	1	1	...
The Apothecaries' Society of London, Licentiates	2	1	1	1	...
Royal College of Physicians, Edinburgh, Do.	4	4	...	...	...
Royal College of Surgeons, Edinburgh, Do.	2	2	...	...	...
King and Queen's Coll. of Phys., Ireland, Do.	11	9	2	...	2
Royal College of Surgeons, Ireland, Do.	16	13	3	...	3
Apothecaries' Hall, Dublin, Do.	3	3	...	...	...
Faculty of Physicians & Surg., Glasgow, Do.	2	2	...	...	...
University of Glasgow, M.D.	1	1	...	...	...
Do. do. M.Ch.	1	1	...	...	...
University of Aberdeen, M.B.	1	1	...	...	...
Do. do. M.Ch.	1	1	...	...	...
Queen's University, Ireland, M.D.	8	8	...	...	...
Do. do. M.C.	5	5	...	...	...
Trinity College, Dublin, M.B.	8	7	1	...	1
Do. do. M.Ch.	5	4	1	...	1
Do. do. Lic. in Med.	1	...	1	...	1
TOTAL	77	67	10	2	8

CANDIDATES.

Successful, 21; unsuccessful, 16; total, 37.

Of the unsuccessful, eleven would have been accepted had there been vacancies for them.

P.S.—Three of the successful candidates had each a third qualification.

Qualifications, according to Schedule (A), of the different Candidates who were examined for Medical Commissions in the Royal Navy in 1868, with the results of the Examinations.

1. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed 2d examination. Fair. Good in Chemistry, Materia Medica, and Botany; fair in other branches.

2. M.D. Q. Univ. Irel., and Mast. Surg. Q. Univ. Irel. Passed. Good. Good in Anatomy, Surgery, Chemistry, Midwifery, and Botany; fair in Medicine and Materia Medica.

3. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Fair. Good in Anatomy, Medicine, and Botany; fair in other branches.

4. Lic. R. Coll. Phys. Edin., Lic. R. Coll. Surg. Edin., and M.D. Q. Univ. Irel. 1st examination rejected; 2d examination passed. Good. Fair in Anatomy, Surgery, Medicine, Chemistry, and Materia Medica; indifferent in other branches.—Good in all branches except in Surgery and Medicine, in which he was fair.

5. Mem. R. Coll. Surg. Eng., and Lic. Soc. Apoth. Lond. Passed. Very good. Good examination in all professional branches.

6. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Fair. Good in Surgery; fair in Medicine, Chemistry, Materia Medica, and Botany; indifferent in Anatomy.

7. Lic. R. Coll. Surg. Irel., and Lic. Apoth. Hall, Dubl. Passed. Good in all branches except in Chemistry and Botany, in which he was only fair.

8. Lic. K. & Q. C. Phys. Irel., Lic. Mid. K. & Q. C. Phys. Irel., and Lic. R. Coll. Surg. Irel. 1st examination rejected; 2d examination passed. Fair. Fair only in Surgery, Medicine, and Chemistry; and indifferent in other branches, and in Manuscript.—Good in Anatomy; fair in other branches.

9. M.D. Univ. Glasg., and Mast. Surg. Univ. Glasg. 1st examination rejected; 2d examination passed. Fair. Fair in Surgery, Materia Medica, and Midwifery; indifferent in all other branches.—Good in Surgery, Medicine, and Midwifery; fair in Materia Medica and Botany; indifferent in Anatomy.

10. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Fair. Good in Medicine, Midwifery, and Botany; fair in other branches.

11. Lic. R. Coll. Surg. Edin., and M.D. Q. Univ. Irel. Passed. Very good. Good in all professional branches.

12. Lic. R. Coll. Surg. Edin., and M.D. Q. Univ. Irel. Passed. Fair. Good in Medicine, Chemistry, Midwifery, and Botany; fair in other branches.

13. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Fair. Good in Chemistry, Medicine, Materia Medica, and Botany; fair in other branches.

14. Lic. R. Coll. Surg. Edin., and M.D. Q. Univ. Irel. Passed. Good. Good in Anatomy, Surgery, Chemistry, Materia Medica, Midwifery, and Botany; fair in Medicine.

15. Mem. R. Coll. Surg. Eng., and Lic. Soc. Apoth. Lond. Rejected. Good in Medicine and Midwifery; indifferent or fair in all other branches.

16. M.B. Univ. Aberd., and Mast. Surg. Univ. Aberd. Passed. Fair. Fair only in all branches, except in Midwifery, which was good.

17. Lic. R. Coll. Phys. Edin., and Mem. R. Coll. Surg. Eng. 1st examination rejected; 2d examination passed. Fair. Good in Medicine, and in other

branches generally defective.—Good in Medicine, Anatomy, Surgery, and Chemistry; fair in other branches.

18. Mem. R. Coll. Surg. Eng., and Lic. Soc. Apoth. Lond. Passed. Good. Good in all branches except Anatomy, in which he was only fair.

19. M.B. Univ. Dubl., and Mast. Surg. Univ. Dubl. Passed. Fair. Good in Chemistry, Materia Medica, and Botany; fair in other branches.

20. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Good. Good in all branches except Botany, in which he was indifferent.

21. Lic. K. & Q. C. Phys. Irel., Lic. Mid. K. & Q. C. Phys. Irel., and Lic. L. Coll. Surg. Irel. Passed. Good. Good in Anatomy, Surgery, Chemistry, Materia Medica, Midwifery, and Botany; fair in Medicine.

22. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Good. Fair in all but Botany, of which he was ignorant.

23. M.D. Q. Univ. Irel., and Mast. Surg. Q. Univ. Irel. Physically unfit.

24. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Good. Good in Anatomy, Chemistry, Materia Medica, and Midwifery; fair in Surgery, Medicine, and Botany.

25. Mem. R. Coll. Surg. Eng., and Lic. Soc. Apoth. Lond. Passed. Very good. Good in all except Botany, in which he was fair.

26. M.D. Q. Univ. Irel., and Mast. Surg. Q. Univ. Irel. Passed. Good. Good in all except Materia Medica and Botany, in which he was only fair.

27. Lic. K. & Q. C. Phys. Irel., Lic. Mid. K. & Q. C. Phys. Irel., and Lic. R. Coll. Surg. Irel. 1st examination rejected. Good only in Anatomy; fair or indifferent in all other branches.

28. M.B. Univ. Glasg., and Mast. Surg. Univ. Glasg. Rejected. 2d examination passed. Fair. Examined only in Anatomy, in which he failed, and requested not to be further examined.—Good in Chemistry; indifferent in Physiology; fair in other branches; Latin and Manuscript good.

29. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Good. Good in Surgery, Medicine, and Midwifery; fair in other branches.

30. M.B. Univ. Aberd., and Mast. Surg. Univ. Aberd. Passed. Good. Good in all branches except Materia Medica and Botany, in which fair only.

31. Lic. R. Coll. Phys. Edin., Lic. R. Coll. Surg. Edin., and M.D. Q. Univ. Irel. 1st examination rejected; 2d examination passed. Fair. Good in Physiology, Chemistry, and Midwifery; indifferent or fair in other branches.—Good in Anatomy, Surgery, Chemistry, and Materia Medica; fair in other branches.

32. M.B. Univ. Edin., and Mast. Surg. Univ. Edin. Passed. Fair. Good in Chemistry and Midwifery; fair in other branches.

33. Mem. R. Coll. Surg. Eng., M.D. Q. Univ. Irel., and Mast. Surg. Q. Univ. Irel. Passed. Fair. Good in Anatomy, Surgery, and Materia Medica; fair in Medicine, Botany, and Chemistry.

34. Lic. K. & Q. C. Phys. Irel., Lic. Mid. K. & Q. C. Phys. Irel., and Lic. R. Coll. Surg. Irel. Passed. Fair. Good in Anatomy, Surgery, Midwifery, and Botany; fair or indifferent in other branches.

35. M.C. Q. Univ. Irel., and Mast. Surg. Q. Univ. Irel. Passed. Very good. Good in all branches.

36. Mem. R. Coll. Surg. Eng., and Lic. Soc. Apoth. Lond. Passed. Good. Good in all branches but Surgery, Materia Medica, and Botany, in which fair.

37. Lic. R. Coll. Phys. Edin., and Lic. R. Coll. Surg. Edin. Passed. Good. Good in all branches but Botany, in which fair.

38. M.B. Univ. Aberd., and Mast. Surg. Univ. Aberd. Passed. Very good. Good in all branches.

Two statements of the Degrees, Diplomas, and Licenses of the Candidates for Commissions in the Medical Department of the Indian Army, who, in February and August 1868, presented themselves for Examination at Chelsea Hospital, were transmitted by T. T. Pears, Major-General, Military Secretary.

Statement of the Degrees, Diplomas, and Licenses of the Candidates for Commissions in the Medical Department of the Indian Army, who, in February 1868, presented themselves for Examination, showing the number that passed, and did not pass, distinguishing the Qualifications, both Medical and Surgical, under the heads of the several Licensing Bodies.

NAMES OF LICENSING BODIES.		QUALIFICATIONS.				
		Number of Qualifications.			Deficient in	
		Total.	Number passed.	Number failed.	Medicine.	Surgery and Anatomy.
University of Edinburgh	{ Doctor in Medicine	1	1	...	...	...
	{ Bachelor of Medicine	3	3	...	...	...
	{ Master in Surgery .	3	3	...	...	...
Royal Coll. of Surgeons, Edinburgh	{ Licentiates	8	5	3	...	2
	{ Master in Surgery .	2	2	...	...	...
Royal Coll. of Physicians, Edinburgh	Licentiates	9	6	3	2	...
University of Glasgow .	{ Doctor of Medicine	1	1	...	...	...
	{ Master in Surgery .	1	1	...	...	...
Do. Aberdeen	{ Bachelor of Medicine	3	3	...	...	...
	{ Master in Surgery .	3	3	...	...	...
Queen's University, Ireland	{ Doctor of Medicine	4	4	...	...	...
	{ Master in Surgery .	3	3	...	...	...
Royal Coll. of Surgeons, England . .	Members	2	2	...	...	...
Society of Apothecaries, London . .	Licentiates	1	1	...	...	...
Royal Coll. of Surgeons, Ireland	{ Members	3	2	1	...	...
	{ Licentiates	2	1	1	...	1
King and Queen's College of Physicians, Ireland	Licentiates	1	1	...	1	...
TOTAL		50	42	8	3	3

CANDIDATES—

Successful, 20; unsuccessful, 4. Total, 24.

DIPLOMAS AND DEGREES—

Successful, 42; unsuccessful, 8. Total, 50.

N.B.—Two had a third qualification, one of whom was deficient in all subjects.

Statement of the Degrees, Diplomas, and Licenses of the Candidates for Commissions in the Medical Department of the Indian Army, who, in August 1868, presented themselves for Examination, showing the number that passed, and did not pass, distinguishing the Qualifications, both Medical and Surgical, under the heads of the several Licensing Bodies.

NAMES OF LICENSING BODIES.	QUALIFICATIONS.				
	Number of Qualifications.			Deficient in	
	Total.	Number passed.	Number failed.	Medicine.	Surgery and Anatomy.
University of Edinburgh, Bachelor of Medicine	2	2	...	...	...
Do. do. Master in Surgery	4	2	2	...	...
Do. do. Doctor in Medicine	3	...	3	...	...
Apothecaries' Hall, London, Licentiates	6	5	1	...	...
Royal Coll. of Surgeons, England, Members	9	5	4	...	1
Do. Physicians, Edin., Licentiates	10	3	7	...	...
Do. Surgeons, Edin., Do.	8	3	5	...	6
Do. do. Master in Surgery	2	...	2	...	...
University of Aberdeen, Bachelor of Medicine	2	1	1	...	...
Do. do. Master in Surgery	2	1	1	...	...
Do. Dublin, Bachelor of Medicine	1	...	1	...	...
Do. do. Master in Surgery	1	...	1	...	...
TOTAL	50	22	28	...	7

CANDIDATES—

Successful, 10; unsuccessful, 12. Total, 22.

DIPLOMAS AND DEGREES—

Successful, 22; unsuccessful, 28. Total, 50.

N.B.—Two of the candidates had a third qualification, and one had a fourth ditto.

Of the twelve candidates returned as unsuccessful, five were qualified, but were not accepted, as only ten appointments were made.

With the view of expediting the business of various Committees, the Council adjourned till Monday at 2 P.M.

MINUTES OF MEETING, Monday, July 5, 1869.

The minutes of the last meeting were read and confirmed.

1. The motion of Dr Storrar, seconded by Dr Embleton—viz., "That the letter from the Medical Registrar of Trinity College, Dublin, be placed on the Minutes" (Minutes of the General Council for July 2, 1869)—was withdrawn, with permission of the Council.

2. Moved by Dr A. Smith, seconded by Sir D. Corrigan, and agreed to:—"That the Report of the Committee appointed by the Branch Council for England, respecting certain Preliminary Examinations, be printed in the Minutes and referred to the Committee on Preliminary Examination."

FROM THE MINUTES OF THE ENGLISH BRANCH COUNCIL FOR JUNE 4, 1869.

"Dr Storrar presented the following Report of the Committee appointed by the Branch Council for England on 25th November 1868, to inspect the papers on General (Preliminary) Education:—

"REPORT.

"Of the papers applied for by the Registrar, those relating to three only of the recognised Examinations have been received, viz. :—

"The Cambridge Local Examinations, Senior ;

"The College of Preceptors, First Class Certificate ;

"The Royal College of Surgeons of England, Preliminary Examination.

"As regards the papers sent from the College of Preceptors, the Chairman, finding they were not in sets, and otherwise not such as were wanted, returned them through the Registrar ; but no others have as yet been forwarded in their place.

"The papers of the Cambridge Local Examinations, Senior, comprised—English, Latin, Greek, French, German, Mathematics, Arithmetic, Geometry, Algebra.

"The examination represents a high standard. The best answers are excellent, and even the worst afford proof of fair knowledge acquired through systematic training. The composition and spelling of English are good.

"The papers of the Royal College of Surgeons of England (Preliminary Examination) comprised—Dictation, English Grammar and Composition, English History, Geography, Latin, Greek, French, German, Arithmetic, Euclid, Algebra, Mechanics, Chemistry, Natural History.

"The standard of this examination is not a high one, but the questions are good, and would, if well answered, be an adequate test. The best answers are generally good ; some of them excellent. The worst are, however, often bad—some so bad that it is not easy to see why they should have been held to be sufficient, the spelling being often bad, and the answers frequently such as to show an absence of all real knowledge of the subjects to which the questions relate.

"JOHN STORRAR, *Chairman.*"

3. On the motion of Dr Paget, seconded by Dr Storrar :—"A Committee was appointed to rearrange the Recommendations and Opinions of the Medical Council on Education, Examinations, and Registration." The Committee to consist of—Dr Paget, Chairman ; Dr Embleton, Dr Fleming, Dr Leet.

4. On the motion of Dr Alexander Wood, seconded by Dr Paget, Dr Macdonald was added to the Committee on Preliminary Education.

5. On the motion of Dr Christison, seconded by Sir D. Corrigan, it was agreed :—"That the Edinburgh University Calendar for Local Examinations for 1868 be submitted to the Committee on Preliminary Examinations, with a view to the Council receiving the Report of that Committee as to the sufficiency of the said Local Examinations to qualify students to commence their Medical studies."

6. *Read*—Reports of Visitations of Examinations at the Queen's University in Ireland.

REPORT OF THE VISITATION OF EXAMINATIONS AT THE QUEEN'S UNIVERSITY IN IRELAND.

Having inspected and reported on the *first* part of the Medical Examinations at the Queen's University, held in June last, I since visited the examinations on the *second* part of the course, or Pass examinations for the degrees of M.D. and M.Ch., held in September and October following.

The subjects comprehended in this part of the examination are Anatomy, Physiology, Medicine, Surgery, Medical Jurisprudence, and Midwifery.

The examinations were conducted orally and by printed papers, and the Anatomy and Surgery were further carried on by demonstrations on the skeleton and on the dead subject. There were about fifty candidates present ; they were allowed three hours for answering the printed questions on each subject, and from ten to fifteen minutes for oral questions.

The questions were clear and definite in form, and afforded a fair test of the theoretical knowledge of the candidates. Of 72 candidates who were examined for the Degrees of Doctor of Medicine, during the collegiate year, 52

passed, and 22 of the number attained to the Degree of Master of Surgery. There is more of the practical element than formerly introduced into these examinations, but it is desirable that it should be extended to other important subjects, especially to Medicine; and I think, that until adequate means are available for conducting examinations at the bedside, certificates from clinical teachers in hospitals should not be received, unless they testify for the proficiency of the candidate in the diagnosis and treatment of disease.

16th March 1869.

C. H. LEET, M.D.

REPORT OF THE VISITATION OF EXAMINATIONS AT THE QUEEN'S UNIVERSITY IN IRELAND.

The Examinations in Medicine for the *Primary Part* and for *Degrees*, commenced on Monday the 14th of June, and were continued daily to the 24th of the month.

The Primary Examination occupied the first week, and the Pass Examination the second week.

I attended on two days in each week, and carefully noted the questions and answers, both written and oral.

The questions, as usual, were judicious and well diversified, and the answers in general were very good; but in the absence of practical tests on important subjects, it is difficult, if not impossible, to say whether the candidates possessed the "requisite knowledge and skill for the efficient practice of their profession."

At these examinations 55 passed the Primary Part, 21 obtained degrees in Medicine, and 13 attained to the degree of Master in Surgery.

This University still permits students to enter upon their medical studies without having passed an examination in Arts; and with regard to the recommendations of the General Medical Council "as to the method of conducting Professional Examinations," I find that those numbered respectively 1, 7, 8, with the former part of number 4, are followed at these examinations, and that those numbered 2, 3, 5, 6, with the latter portion of number 4, have not been adopted.

C. H. LEET, M.D.

26th June 1869.

On the motion of Dr Fleming, seconded by Dr Andrew Wood, the above Reports of Visitations of Professional Examinations at the Queen's University, Ireland, were entered on the minutes.

7. Mr Ouvry read the following Summons which had been served on John Pattison, M.D. Univ. New York, 1843:—

To John Pattison, M.D., 10 Cavendish Road, St John's Wood.

Sir,—Evidence having been submitted to the General Council of Medical Education and Registration of the United Kingdom purporting to show that you have been guilty of infamous conduct in a professional respect, in writing and sending to Charles Hay Frewen a letter, with a paper enclosed therein, of which letter and paper the following are copies:—

"Dr Pattison has a new work on Cancer preparing for the press, and he considers it only right that Mr Frewen should see his report of his late wife's case. Dr Pattison, knowing Mr Frewen's fondness for litigation, takes this step to protect himself—he will be happy to make any alteration in the history of the case, consistent with truth, that Mr Frewen may suggest. If Dr Pattison does not hear from Mr Frewen by Wednesday, 21st October, he will take it for granted that Mr Frewen endorses Dr Pattison's statement, and he will accordingly send the MS. to press.

"26 Welbeck Street, Cavendish Square,
"17th October 1868."

"Case No. 4134.

"Successful treatment of scirrhus of the left breast complicated with fatty

degeneration of the heart and bronchial irritation. Death five weeks after removal of disease.

"Mrs Charles Hay Frewen, of Cold Overton, near Oakham, and of Coghurst Hall, near Hastings, and of 38 Devonshire Place, Portland Place, London, W. Aged 54 years.

"This lady, accompanied by her husband, Mr Charles Hay Frewen, consulted me on the 21st September 1866. On examination I found a large scirrhus mass occupying the upper and axillary portion of the left mamma. The disease was in its second stage, the skin having become implicated, being attached to the scirrhus, and of the particular dirty white appearance described at page

I was informed that the previous winter was spent at Cannes, owing to asthmatic breathing. On examination by stethoscope, found fatty degeneration of heart, but lungs, excepting bronchial irritation, intact. Considering that the disease was rapidly increasing, and that if not removed death must necessarily be the consequence, I proposed its immediate removal, so that Mrs Frewen might be enabled to spend the next winter months in the south of France. It was not, however, till the middle of November that Mr Frewen brought her up to his town house, in Devonshire Place.

"The primary cause of the disease, Mrs Frewen afterwards told me, was a blow accidentally received from her first husband, the late Mr Bristow, when in an epileptic fit, further aggravated by circumstances during her second married life. On the 19th November 1866, I commenced the treatment by using dilute nitric acid, but owing to a peculiar abnormal delicacy of the skin, instead of deadening the cuticle it rose into one blister. This caused additional trouble and difficulty, and unusual pain to the patient. These, however, were all overcome, and on the 16th December the disease was destroyed, and early in January it came away.

"About the time the cancerous disease was destroyed asthmatic symptoms occurred, commencing generally about three o'clock in the morning, and lasting from three to six hours. These were in a measure overcome, but on the entire removal of cancerous disease they were aggravated. As soon as the disease was removed, I urged on Mr Frewen the necessity of removing his wife without delay to the south of France, but this gentleman (who possesses in a large degree a qualification that is necessary and commendable in a bulldog, but contemptible in a professing Christian—I mean stubbornness) could not be persuaded from his own preconceived opinion. And it was not until shortly afterwards I talked to my friend, Dr Wilkinson, that through him he was induced to move his wife to Hastings, which he did on the 31st January 1867. Before leaving town, Mrs Frewen spoke to me regarding my fee, at which she expressed herself satisfied, and, no doubt knowing her husband well, said 'She would see that was paid.' On the 6th February I was sent for to see this poor lady, and found her staying in a house exposed to the sea, the worst possible situation she could have been removed to. I found the asthmatic symptoms worse, as might have been expected, and her strength reduced. I again urged her immediate removal without effect. On the 9th of the same month, when walking to her sofa, she sank into an attendant's arms and expired.

"Her physician at Hastings testified that she died from fatty degeneration of the heart, and from bronchial irritation, no trace of cancer being discovered. I have no doubt in my own mind that if Mr Frewen had removed his wife early in January to the south of France that she would to this day have been quite well. From the nervous character of the patient I paid no less than one hundred and thirty-eight visits to Devonshire Place, and no doubt my readers will be surprised when I inform them that this 'English Country Gentleman,' this man, who at the time was one of her Majesty's sheriffs, preferred his money either to his own honour or the dying request of his wife, refusing positively and with his well-marked stubbornness for ever to pay me the balance due. Surely after such conduct all must look with sorrow mingled with contempt on such a representation of the English Gentleman."

I have to inform you that on Monday, the 5th day of July next ensuing, at three o'clock in the afternoon, the General Medical Council will meet at the Royal College of Physicians in Pall Mall East, London, and will then and there institute an investigation into the truth of the matter, with a view to decide whether your name ought to be removed from the *Medical Register*. At that investigation you are hereby invited and requested to be present. You will also take notice that the meeting of the Council is fixed peremptorily for the day and hour hereinbefore named, on which day and at which hour the inquiry will be prosecuted whether you attend or not.

Dated at 32 Soho Square, in the county of Middlesex, the 7th day of June 1869.

(Signed) FRANCIS HAWKINS, M.D.,
Registrar of the General Medical Council.

Dr Pattison having failed to appear before the Council, Mr Ouvry then read at full length the evidence in support of the charges, and also the answers to them which Dr Pattison had addressed to the Council as his defence.

On the motion of Sir D. Corrigan, seconded by Dr Rumsey, it was agreed:—"That John Pattison, of 10 Cavendish Place, St John's Wood, M.D. New York, is judged by this Council, after due inquiry, to have been guilty of infamous conduct in a professional respect."

It was then moved by Dr Bennet, seconded by Mr Hawkins, and agreed to:—"That the said John Pattison having been judged by the General Council, after due inquiry, to have been guilty of infamous conduct in a professional respect, the General Council do hereby adjudge that the name of the said John Pattison be erased from the Register; and do by this order direct the Registrar to erase his name from the Register accordingly."

On the motion of Dr Stokes, seconded by Mr Hargrave, it was agreed:—"That a copy of these orders, signed by the President in the Chair, and countersigned by the Registrar, be transmitted to the said John Pattison."

8. The following communication from the Royal College of Surgeons of England, respecting Vaccination, was received, and ordered to be entered on the minutes:—

Royal College of Surgeons of England,
November 18th, 1868.

SIR,—I have laid before the Council of this College your letter of the 22d of July last, transmitting, by direction of the General Council of Medical Education and Registration of the United Kingdom, copies of two Recommendations issued by that Council relating to Vaccination, together with copies of the Report of a Committee of the General Medical Council on the same subject, and expressing the hope of that Council that these Recommendations will be adopted by all the Bodies mentioned in Schedule (A) of the Medical Act; and I am desirous to acquaint you that the Council of the College, having fully considered the Recommendations, adopted them, and at the same time resolved that the regulation restricting the grant of the certificate of instruction and proficiency in Vaccination to Surgeons holding the appointment, or possessing the opportunities enumerated in the second recommendation, be applicable to candidates commencing their Professional Education for the diplomas of this College, on or after the 1st October 1868.—I am, etc.

EDWARD TRIMMER, *Secretary.*

F. Hawkins, Esq., M.D., etc. etc. etc.

9. *Read*—Communications from the Medical Teachers' Association of London, which, on the motion of Dr Alexander Wood, seconded by Dr Embleton, were received, and referred to the Committee on Medical Education.

10. A Certified Extract having been read from the Minutes of a Meeting of the Royal College of Physicians of Edinburgh, at which meeting Lima Abraham La'Mert was deprived of the License of the College, it was moved by Dr Alexander Wood, seconded by Dr Embleton, and agreed to:—"That the Registrar do forthwith erase from the *Medical Register* the qualification of

Lima Abraham La'Mert as a Licentiate of the Royal College of Physicians of Edinburgh."

11. An application from Mr George Peterson Bernard, to be reinstated on the *Medical Register*, from which his name had been removed, through an erroneous report of his death, was, on the motion of Dr Paget, seconded by Dr Storrar, agreed to. The Chair was then taken by Dr Christison at the request of the President.

12. *Read*—An application from Mr Evan Thomas that his name might be replaced on the *Medical Register*. Moved by Dr A. Smith, seconded by Dr Alexander Wood, and agreed to:—"That the application of Mr Evan Thomas to have his name replaced on the Register be not complied with."

13. *Read*—An application from Mr Thompson Whalley, that his name might be replaced on the *Medical Register*. Moved by Mr Caesar Hawkins, seconded by Dr Paget, and agreed to:—"That Mr Thompson Whalley's request be not complied with."

14. Moved by Dr Acland, seconded by Dr Paget, and agreed to:—"That an application from the Bishop of Christchurch, New Zealand, made through Dr Acland, to have the Arts Examination of Christ's College, New Zealand, recognised by the Medical Council, be referred, with the documents which accompany the letter of application, to the Committee on Preliminary Examinations."

(To be continued.)

UNIVERSITY OF EDINBURGH.

CHAIRS OF GENERAL PATHOLOGY AND CLINICAL SURGERY.—Although the vacancies cannot be formally announced till certain preliminary arrangements have been made, it is understood that Professor Henderson has resigned the Chair of Pathology, and Professor Syme the Chair of Clinical Surgery, the reputation of which he made and raised to more than European celebrity. Some important steps have already been taken in regard to both Chairs. At the Senatus, it was discussed whether these professorships should be suppressed or continued; and it was resolved that both Chairs should be continued. In the College of Surgeons, a motion was made to do away with the special Chair of Clinical Surgery, and to divide the clinical teaching among the various surgical professors, just as the Clinical Medicine is at present conducted, in rotation, by the different Medical Professors. After prolonged discussion, the motion to abolish the Chair was lost, but it was resolved to memorialize Government to make the teaching more open, by removing the restriction which at present disqualifies hospital surgeons who lecture on systematic surgery from teaching clinical surgery. The appointment to the Chair of Pathology is in the hands of the Curators; while the nomination to the Chair of Clinical Surgery rests with the Crown. The candidates already announced for the Pathological Chair are Drs Sanders, Grainger Stewart, and Andrew Smart; for that of Clinical Surgery, Professor Spence, Drs Gillespie, P. H. Watson, and Joseph Bell, of Edinburgh, and Professor Lister of Glasgow.

DR WILLIAM RUTHERFORD, F.R.S.E., assistant to the Professor of the Institutes of Medicine in the University of Edinburgh, has been unanimously elected to the Professorship of Physiology in King's College, London, rendered vacant by the retirement of Professor Lionel Beale, F.R.S.

PUBLICATIONS RECEIVED.

- J. T. W. Bacot, Surgeon-Major,—The Bahamas. London, 1869.
H. Backus,—Pathological Phenomena Generalized. Montevallo, Alabama, 1869.
Louis Bauer, M.D.,—Lectures on Orthopædic Surgery. New York, 1869.
Henry Heather Bigg,—Manual of Orthopraxy. London, 1869.
Braithwaite's Retrospect of Medicine,—January to June. London, 1869.
F. Churchill, M.B.,—Auscultation of the Heart. London, 1869.
Charles Clark, M.A.,—Diaphoresis. London, 1869.
T. Spencer Cobbold, M.D.,—Entozoa. London, 1869.
Walter J. Coulson, F.R.C.S.,—Treatise on Syphilis. London, 1869.
Professors Crivelli and Maggi,—Sulla Produzione di alcuni Organismi Inferiori; Intorno alle Cellule del Fermento; Sulla Produzione del Bacterium Termo Duj; Sulla Derivazione del Bacterium Termo Duj; Alcuni Cenni Soora lo Studio dei Corpi Frangiati delle Rane; Sulla Produzione di alcuni Organismi Inferiori; Intorno alla Produzione del Leptothrix.
W. B. Davis, M.D.,—Carbolic Acid; its Surgical and Therapeutical Uses. Cincinnati, 1869.
W. W. Dawson, M.D.,—Fibro-Cystic Tumours. Cincinnati, 1869.
The Disinfectant Question. London, 1869.
Charles Elam, M.D.,—A Physician's Problems. London, 1869.
James Finlayson, M.B.,—Normal Temperature of Children. Glasgow, 1869.
Eleventh Annual Report of the General Board of Commissioners in Lunacy for Scotland. Edinburgh, 1869.
J. Giraldès,—Leçons sur les Maladies Chirurgicales des Enfants. Paris, 1869.
Benjamin A. Gould, Ph.D.,—United States Sanitary Commission Memoirs: Statistical. New York, 1869.
Half-Yearly Abstract of the Medical Sciences—January to June. London, 1869.
Jabez Hogg, F.L.S.,—Cataract and its Treatment. London, 1869.
Edwin Lee, M.D.,—Mentone and San Remo. London, 1869.
Edwin Lee, M.D.,—The Baths of Nassau. London, 1869.
F. Harwood Lescher,—Introduction to the Elements of Pharmacy. London, 1869.
John Macpherson, M.D.,—Cholera in the East. London, 1869.
E. D. Mapother, M.D.,—The Dublin Hospitals. Dublin, 1869.
Mrs Mary S. G. Nichols,—A Woman's Work in Water Cure. London, 1869.
Wm. Odling, M.B.,—Lectures on the Chemical Changes of Carbon. London, 1869.
James Ross, M.D.,—On Counter-Irritation. London, 1869.
Thomas Hawkes Tanner, M.D.,—The Practice of Medicine. London, 1869.
Sir Henry Thompson, F.R.C.S.,—Pathology and Treatment of Stricture of the Urethra. London, 1869.

PERIODICALS RECEIVED.

- American Journal of Insanity,—April.
American Journal of Obstetrics,—May.
American Journal of the Medical Sciences,—April.
Annales d'Oculistique,—March to June.
Berlin. Klin. Wochenschrift,—Nos. 17 to 30.
Births, Deaths, and Marriages, Monthly Return of,—May, June.
Births, Deaths, and Marriages, Quarterly Return,—March.
British and Foreign Medico-Chirurgical Review,—July.
British Medical Journal,—May 1 to July 24.
Bulletin Générale de Thérapeutique,—May, June, July.
Dublin Quarterly Journal of Medical Science,—May.
Gazette des Hôpitaux,—Nos. 46 to 85.
Gazette Hebdomadaire de Médecine, etc.,—Nos. 18 to 30.
Gazette Médicale d'Orient,—No. 17.
Gazette Médicale de Paris,—Nos. 18 to 30.
Glasgow Medical Examiner,—May.
Glasgow Medical Journal,—May, June.
Journal de Médecine Mentale,—June.
Journal of Mental Science,—July.
Journal of Cutaneous Diseases,—July.
Journal of Anatomy and Physiology,—May.
Klin. Monatsbl. für Augenheilkunde,—February, March, April, May, and supplementary part.
Medical Press,—April 28 to July 21.
Medical Times and Gazette,—May 1 to July 24.
Medizinische Jahrbücher,—Band xvii. heft 2.
Monatsschrift für Ohrenheilkunde,—Nos. 4, 5, 6.
Monthly Microscopical Journal—May, June, July.
Nederlandsch Archief voor Genees- en Natuurkunde,—Deel iv. Aflevering 2, 3, 4.
Nederlandsch Tijdschrift voor Geneeskunde,—October 1868 to April 1869; Aflevering, 1 and 2.
New York Medical Journal,—April, May, June.
Practitioner,—May, June, July.
Quarterly Journal of Microscopical Science,—July.
Revue de Thérapeutique Médico-Chirurgicale,—Nos. 9 to 14.
Virchow's Archiv,—April, June.
Wochenblatt der Aerzte zu Wien,—Nos. 5, 9, 11 to 15.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Address to the Edinburgh Medical Graduates*, August 2, 1869. By JOHN H. BALFOUR, M.D., F.R.S., Professor of Botany in the University, and Dean of the Medical Faculty.

GENTLEMEN,—I am called upon this day to take the place of Dr Henderson, our late Professor of Pathology, and to act as Promoter of the Medical Faculty. In doing so, I cannot but express my sympathy with my colleague, who is prevented by the state of his health from undertaking his usual professional work.

On the present occasion I have to regret the absence of another colleague, who for a period of more than ten years ably occupied the Chair of Chemistry. By the elevation of Dr Lyon Playfair to a position of eminence in the councils of the nation as our representative, we have lost one who did much to sustain the reputation of our school, who took a deep interest in educational reform, and who will, I doubt not, continue to promote by his influence in the House of Commons the cause of technical science. Already he has gained reputation in Parliament by his educational efforts, and I am satisfied that the experience which he had during his residence here will aid him much in his Parliamentary labours.

We have sustained a third loss among the members of the Medical Faculty by the retirement of our highly honoured veteran professor, Mr Syme, who for a period of thirty-six years has fulfilled the duties of the Chair of Clinical Surgery, and who has long occupied the highest place amongst Scottish surgeons.

I look back with pleasure to the days when I listened to his surgical prelections in our Medical School, and to his practical instructions in Minto House; and I feel proud at having been long associated with him as a colleague. He encouraged me in early days in the prosecution of natural science as well as of surgery, and his taste for the department of science which I now profess is still shown in the exquisite botanical and horticultural arrangements at his beautiful suburban villa. The study of nature is not merely the delight of youth, but it is a comfort and solace in declining years, and recalls many pleasing recollections of bygone days. In the dealings of God's providence, Mr Syme has felt called upon to retire from the more active part of his professional life, but I am glad to think that he is not compelled to desist entirely from his labours, and that he still keeps up his interest in the improvement

of medical education. We earnestly hope that he may be long spared to go out and in among us, and maintain the celebrity of the Surgical School of Edinburgh. His pupils occupy situations of importance in all parts of the world, and their high regard for him has been recently manifested in the address which has emanated from the surgeons of India. The honours which he has received from Oxford and Dublin demonstrate the eminent position which he occupies in this country. His name will ever be associated with the advance of clinical surgery, and with sound practical instruction in the wards of our celebrated Infirmary; and those who have had the good fortune to study under his guidance will never forget the sound surgical principles which he inculcated. We rejoice to see him here on this occasion, evincing his interest in our annual ceremonial of medical graduation.

Some of Mr Syme's former pupils recently met at the house of Dr Murchison in London (one of Mr Syme's former house-surgeons, and a distinguished Edinburgh graduate), and resolved to inaugurate a testimonial to Mr Syme, on the occasion of his relinquishing the Chair of Clinical Surgery in the University of Edinburgh. It is proposed that the testimonial shall have a twofold object, viz.:

1. To place a marble bust of Mr Syme in the Hall of the New Royal Infirmary, or in the Upper Library Hall of the University; and
2. To found a Fellowship in Surgery in the Edinburgh University, to be called "The Syme Surgical Fellowship."

The pupils of Mr Syme, who have profited so much from his admirable clinical instruction, will, I have no doubt, speedily accomplish their object, and thus raise a lasting memorial to their respected and much-loved teacher.

It is, indeed, a remarkable circumstance, that I should have now to record the resignation of no less than one-fourth of the members of the Medical Faculty in the course of one session. Such an event, I suppose, never before occurred in the annals of the University. Thankful we are that our former colleagues are still living with us, and that we have not been called upon to lament their removal from this earthly sphere.

While thus recording our losses, we may also recount our gains. In the room of Lord Brougham, whose name was a tower of strength, but who for many years was unable to take an active interest in the University, we have secured in the Lord Justice-General a Chancellor who is resident among us. His Lordship is thoroughly conversant with everything connected with Universities, having acted as President of the recent University Commission, which did much to improve the character of our medical degrees, particularly as regards classics, physics, and philosophy. He, I doubt not, will be gratified to find that the system which he was the means of initiating has worked well, and is likely to be productive of much benefit to our University.

I have also to notice the fact, that we have gained a Principal

and Vice-Chancellor, who is now present for the first time at our medical graduation. May he be present at many such scenes! He has long taken an interest in education, and his efforts in India have been crowned with eminent success. He has come among us animated with the desire of promoting education in Scotland, and he has set himself to do his duty to the University in an earnest and prudent manner. Firmness and decision, coupled with conciliation, have marked all his doings. He has secured the respect and the harmonious co-operation of his colleagues in all the important matters brought before them.

This is now the third time that I have addressed the graduates as Promoter of the Medical Faculty—the first being in 1847, and the second in 1858. Alas! what changes have taken place in our Faculty during these twenty-two years. Besides the retiring of the professors already noticed, and the removal of Dr Allen Thomson to Glasgow, we have had to lament the departure of Monro, Jameson, Alison, Traill, Forbes, Gregory, Ballingall, Miller, and Goodsir; and at this moment there remain only three who were members of the Faculty in 1845. During that period I have acted as Dean, and I have recorded the passing of 1517 graduates, who have spread the fame of our University over all parts of the world, and many of whom are now occupying positions of high eminence in medicine and science.

You are now to be sent forth with the *imprimatur* of the University. You have passed through a full curriculum of study, and you have been examined in literature, in science, and in medicine and surgery. In addition to the examinations in classics, mathematics, and philosophy, you have all undergone written and oral examinations on professional subjects. These examinations have extended in each case over twenty hours.

Many of you have on the present occasion returned to the University in order to receive the highest medical degree of M.D., after having spent two or more years in the practical prosecution of your profession, and having submitted theses approved by the Medical Faculty. It may be remarked that the thesis now constitutes a more important element in the acquiring of the degree of M.D. than it did formerly, and in future our graduates will be expected to show by the merits of their theses that they are worthy of the honour to which they aspire. We welcome you back to our Hall, and we gladly renew the intercourse which has been for a time interrupted.

This year, for the first time, the old custom of the defence of theses has been given up. You have not been subjected to the ordeal of a public disputation. In former days these *disputationes inaugurales* afforded an opportunity of practising a colloquy in the Latin tongue. There was something interesting, although formidable, in this ceremonial, and it bore the mark of a learned profession. It is not, I think, without some feeling of regret that matters have been altered. The change from Latin to English in the professional

examinations no doubt cannot be too highly commended, but there might have been no harm in keeping up the *litera humaniores* in the defence of the theses. Such views will not meet with a response from those who, in the present day, ignore classics, and wish to substitute for them in all cases the languages of modern Europe. I believe, however, that the latter will not supply the places of Greece and Rome as regards the training of the mind in the structure of language. As men of science, you must know Latin and Greek if you wish to understand terminology and classification. On this occasion there has been another innovation, which, I am sure, is calculated to do good, and increase the number of those who take the highest medical degrees. Many who pass their examinations and take the degree of M.B., are called upon immediately to go to distant lands to practise their profession, and are thus prevented from coming here after two years, in order to get the degree of M.D. conferred. They can comply in every respect with what is required, except personal appearance. Two cases of this kind have occurred this season, and as they are both of a special nature—one being that of a graduate settled in St Kitts, and another that of an M.B. in India—and in both instances ample certificates from official authorities having been received as to the character of the gentlemen and their engagements, the Senatus have agreed to confer the degree of M.D. on them in absence. This will be a great boon to such of our graduates as are called upon to enter upon professional work in India and the British Colonies, or in distant climes.

We continue the custom of conferring honours on the more distinguished of our graduates who throughout the whole of their professional examinations, both written and oral, have gained high marks; there are three such on our present list. George Ansdén, who has gained first-class honours; and Byrom Bramwell and George Kincaid Pitcairn, who have gained second-class honours.

It has been the practice of the Medical Faculty to award gold medals for distinguished theses. These are, by the new statutes, confined to the Doctorate of Medicine. This year two medals have been awarded—one to Dr. John Haddon, who has written an able thesis on the Sphygmograph and the Thermometer in Health and Disease, and has recorded many valuable practical observations made with these instruments in the hospital and elsewhere. The thesis contains original researches of merit, and this is the test by which the giving of the medal is determined. The other medal has been awarded to Dr. John Miller Strachan for a thesis on the Pathology and Functions of the Cerebellum. Dr. Strachan has acted for some years as a missionary in connexion with the Church of England in India. Seeing the importance of medicine in connexion with his missionary work, he has prosecuted his medical studies in the medical schools of Madras and Edinburgh, and he now returns to India to apply his medical knowledge as a handmaid to his mis-

sionary labours, to heal diseases and to preach the Gospel. He has given a valuable thesis, illustrated by a very large number of microscopical preparations, which bear evidence of his ability, skill, and perseverance. His original observations entitle him to the medal. Besides these, the thesis of Dr Lightfoot on Carbolic Acid chemically considered was thought worthy of competition for a medal, and he has been marked with two stars; while the theses of Dr James Ormiston Affleck and of Dr C. Currie Ritchie have been commended, and have been marked each with one star.

The Medical Faculty have been called upon this year to make the award of the Ettles Medical Scholarship. This scholarship was founded in 1868 by Miss Mary Ettles, of Inverness (chiefly at the suggestion of Professor Syme), as a memorial of her late brother, John Ettles, Esquire, merchant, Havannah. It consists of the free annual proceeds of the sum of £1000 mortified for the purpose. In the deed of foundation it is stated that the scholarship shall be annually awarded to the graduate in medicine of the University of Edinburgh whom the Medical Faculty in the University may consider the most distinguished amongst the graduates in medicine of that year. It includes all the graduates, whether M.D. or M.B. In determining the prize for the first time, the Medical Faculty have encountered no small difficulty, on account of having on their list many distinguished graduates who were nearly equal in merit. After a careful comparison of the results of the examinations which they have undergone for the degree of M.B., the Faculty have recommended the Senatus to confer the scholarship this year on Dr Henry Alleyne Nicholson, who took the degrees of M.B. and C.M. at this University with honours in 1867, who is also a Doctor of Science of Edinburgh, and who gained a gold medal in 1867 for a thesis on the Geology of Cumberland and Westmoreland, which was afterwards published in an enlarged form. The Senatus have adopted the recommendation of the Medical Faculty, and the Chancellor will now present to Dr Nicholson the certificate from the Dean of the Medical Faculty, which entitles him to draw the free annual proceeds of the fund for the session 1868-69.

We have this day certified your fitness for the duties of the medical profession in all its branches. We send you forth as men who have received a liberal education, who are capable of mingling in literary and scientific society, and who at the same time are well qualified to promote the honour and dignity of the medical profession, and alleviate the sufferings of humanity. Never forget that you have gained not only a license to practise medicine and surgery, but you have been invested with a high University honour which implies something more than the possession of a diploma from a College of Physicians or Surgeons. The distinction of a University degree is founded in no small measure on the possession of literary and scientific knowledge. Candidates for graduation must not think that the mere routine treatment of disease is all that

they have to attend to. They want to acquire an honour, and in aspiring to this, they must have something to distinguish them from those who are content with a simple license. Considering the facilities which our University affords for the study of science, our graduates ought to go forth fitted to take a good position in the scientific world.

The training which such studies give to the mind is most beneficial. They impart an enlarged view of the phenomenon of nature, and enable a man to take that place in society which a liberal education secures. The enlightened members of the medical profession have a powerful influence on the tone of society, and they may do much to promote a taste for literature, science, and philosophy.

In a Report issued many years ago by the Commissioners for visiting the Universities of Scotland, the following remarks occur:—"It is a matter about which all are agreed, that it is desirable that medical practitioners should be men of enlightened minds, accustomed to exert their intellectual powers, and familiar with habits of accurate observation and cautious reflection. It is also desirable that they should have that degree of literary and scientific attainment which will prevent them, when mingling as they must do with mankind in the exercise of their profession, from being looked upon with contempt, or from committing errors in conversation and in writing, for which others would be despised: because, even upon the supposition that, notwithstanding this, they have high professional acquisitions, the law of association will operate, and the conclusion will be drawn, that much confidence cannot be placed in them. This tendency not to confide in him, is one of the most formidable difficulties with which a physician has to struggle; much, unquestionably, of the success of ordinary practice depending upon the feelings of trust or security with which he is regarded. It is also of importance that a class of men so widely diffused, and mingling so much with society as the members of the medical profession, should be so instructed as to be able to give a tone to conversation, and to promote among those with whom they associate the love and the pursuit of literary and scientific accomplishments."

I am happy to think that many of our graduates have been distinguished in the walk of science, and that efforts are being made by those who wish to keep up the prestige of our School to institute fellowships, scholarships, and prizes, both in natural and physical science.

A fellowship has this day been founded by the friends of one of our late graduates, Dr Falconer, an eminent man of science in the department of Palæontology, who acquired for himself a high reputation. His life has been recently given to the world by another of our graduates, Dr Murchison, who has been mainly instrumental in promoting the foundation of the fellowship, and to whom the University lies under a deep debt of gratitude. I trust that it will be the means of stimulating our graduates to direct attention to Palæ-

ontology in all its bearings. Hugh Falconer, in memory of whom the fellowship is founded, was a student of this University, and took the degree of M.D. in 1829. I recollect him well as an earnest student of Botany, with whom I made excursions in the neighbourhood of Edinburgh. He went to India and acquired reputation in connexion with the Botanical Gardens of Saharunpore and Calcutta, as well as by his palæontological researches in the Sivalik Hills. To the latest hours of his life he took a warm interest in the foundation of fellowships and scholarships in the University of Edinburgh, and after his death, on 31st January 1865, his friends resolved to collect funds for the purpose of founding a fellowship in natural science. A sum of £2000 has been raised by the subscribers, and the Association for the Better Endowment of the University of Edinburgh has added £500. With this sum of £2500, the Falconer Memorial Fellowship for the encouragement of the study of Palæontology and Geology is now founded; and the first competition will take place next year. The fellowship will be worth about £100 per annum. It is under the patronage of the Senatus Academicus, and is open to the competition of graduates of Science and Medicine of the University of Edinburgh of not more than three years' standing at the time of the competition. The fellowship is to be tenable for two years; but if the holder, before the end of this period, gives satisfactory proof to the Senatus Academicus, by published memoirs or otherwise, that he continues to prosecute the study of Palæontology and Geology, which it is the object of the fellowship to promote, the tenure shall be extended to three years, and in certain circumstances it may be extended to four years.

It shall not be competent for any person to hold this fellowship along with any other fellowship, scholarship, or bursary in any Scottish University.

This noble contribution and the Baxter Scholarship are well calculated to encourage the study of the natural sciences.

I congratulate the University that, on the occasion of the first announcement of a Palæontological Fellowship, they should be honoured with the presence of Sir Roderick Impey Murchison, K.C.B., now LL.D. of this University, a distinguished Scotsman, who stands at the head of geological science in this country, who has devoted a long life to practical palæontological investigations, and whose works have deservedly procured for him a world-wide reputation. I am sure that he will be gratified at being present on this occasion, when we lay the foundation of a Palæontological Fellowship in honour of his late friend Dr Falconer, toward the founding of which fellowship he has contributed. Personally I feel high gratification in meeting Sir Roderick at this time. I met him first in the wild district of Durness in Sutherlandshire in 1827, when I was a pupil of my predecessor, Dr Graham; and, since that time, I have seen the development of those geological views in re-

gard to the Silurian system, which have raised his name to its present high position in the geological world.

Dr Neil Arnot, well known for his acquirements in physical science, has, with the view of encouraging the study of natural philosophy among medical students, instituted a scholarship, value about £40. This scholarship is to be awarded for proficiency in Experimental Physics to the most deserving candidate who is about to commence his first *annus medicus*. If there be no such candidate, or if the successful candidate should fail to enter on his medical curriculum, then the prize passes to the most distinguished Arts student in experimental physics at the last examination. The examination for the scholarship takes place at the October examination for the Arts degree (not the medical preliminary). It is to be hoped that our medical students will make an effort to gain the prize, and not allow it to be absorbed by the students of Arts. This prize, along with the Baxter Scholarship in Physical Science, will do much to encourage the prosecution of Natural Philosophy in our University.

I need not remind you that our University is an institution where education is carried on, in which an interest is taken in the training of youth, and where habits of application are acquired. In it also you have formed associations with each other of no ordinary kind. You have sat together on the same benches, listening to prelections or attending to demonstrations. You have studied together, you have prosecuted natural history researches in the museum and in the garden. It may be you have joined in many a ramble over hill and plain, or in many a dredging excursion, examining the flora and fauna of the country. You may have met in the same debating society, and joined in athletic sports; and thus you have been knit together by brotherly ties which will last through life.

The Edinburgh University Medical Club in London testifies in its quarterly meetings to the bonds which unite our graduates. They speak with enthusiasm of the years spent within our walls, and recall the associations of early days. I had the pleasure of attending one of the meetings, not long ago, along with my colleague Dr Maclagan, and it was to us a source of sincere gratification to renew our intercourse with our graduates, and to meet with those seniors in the profession whose period of graduation was traced back to the early years of this century. A University—at least as understood in Scotland—is not merely a board authorized to examine students and grant degrees. It is an educational institution intended to exercise a surveillance over the studies of youth, to train their minds for the proper acquisition of knowledge, and to direct their energies in such a way as to insure that mental culture which will fit for all the duties of life. We speak of our University as an *alma mater*, because she acts the part of a mother to her alumni, educating them and superintending their progress in liberal

studies. Her children are bound to her and to each other by strong and enduring ties. She sends them forth crowned with the honours which she has to bestow, and they willingly, as you have done this day, promise to bear her in grateful remembrance. Such an institution is very different from a mere University Board of Examiners. Connected with *it* there are no associations, no training, no education. It stands rather in the relation of a *noverca* than of a *mater*. The State as patron, it may be, endows the step-mother liberally, and as she has no children of her own, it gives her power to examine, correct, and discipline the children of others. She has no proper home for them, and no instruction. She simply allows them to appear before her once or twice in the course of their career, and ascertains what they have been doing. She has no means of education, no experience in training, and her step-children are not bound by any of the ties which unite the members of one family, who are meeting each other daily in the prosecution of their studies within the University Home, and forming friendships which are cemented by the continued intercourse of years of training. Our University system is well fitted to keep up the amenities of academic life. No man ever called an examining board an *alma mater*. He is much more disposed to look upon it as a *terribilis noverca*. Pliny says—*Taceant quibus Italia noverca est non mater*; so we would say of a University, *Taceant quibus Universitas noverca est non mater*.

Long may our University continue to occupy its position, alike as an educational establishment and as a source of academic honours and distinction. It will be a bad day for Scotland if ever we lose our prestige in these respects.

In all departments of your curriculum you have had much practical teaching. This is a most important matter for you in after life. I don't know a school in which, both as regards teaching and examination, more practical work is accomplished. We all find that as we progress in teaching we become more demonstrative and practical. Lectures read *ex cathedra* in most departments of science are not likely to stimulate the pupils. There must be a descending into the arena of ordinary conversation, and more or less of a colloquial imparting of knowledge, if we wish to succeed in stimulating young men to exertion. In my own department, I am sure that the demonstrations in the class-room, in the garden, and in the fields, are the most useful to students. Our School has long been distinguished by its clinical lectures in the Infirmary, by which students are trained in the practical work of medicine and surgery. To these have been added of late years examinations on the cases in the wards, which form an important part of the test which graduates have to undergo.

Practical examinations are well calculated to put an end to the old system of cramming or grinding, or, as it is called in other Universities, "coaching." Medical graduates cannot be satisfied nowadays with mere book knowledge, or with the information

acquired from systematic lectures alone. They must put their hand to the work and deal with the *ipsissima corpora* placed before them. Hence they enter more confidently on independent practice.

Your profession embraces the world in its grasp. It is not confined to any country or any clime. Wherever civilisation extends, there medical services are demanded. A well-educated medical man is always an acceptable addition to a community.

In leaving the University walls you do not lose connexion with us; you will become, I doubt not, members of the University Council. You will have a share in the deliberations as to University improvement, and you will have a vote for Chancellor and for a Member of Parliament. You enjoy the privilege of a library, and many of you may continue for a time to aid us in our University prelections and practical demonstrations. Would that there were more University openings of this kind for our medical graduates! Much of the prosperity of our University may depend on the proper exercise of the rights which you now possess. Such of you as continue to prosecute natural science may find many openings. Scientific medical men are specially wanted in all expeditions; and even amidst the cares of practice the scientific studies of your youth will not be unimportant. My attention was forcibly recalled to this fact lately when visiting Berwickshire—a county, the natural history of which was elucidated by a former graduate of this University, Dr Johnstone of Berwick, a man engaged in large practice, who yet found time to prosecute his researches into all departments of natural science, and whose work on Zoophytes is a lasting memorial of his acquirements.

You must show yourselves worthy of the honour now conferred on you, by keeping up the reputation of our University Medical School; by conducting yourselves on all occasions in such a way as to support the dignity of the profession. Be not led away, by the mere prospect of pecuniary advantage, to pander to that depraved public taste which delights in quackery, in pretended nostrums and infallible cures. Walk in that honourable path which alone can secure the respect, not only of the members of the profession, but of all right-thinking men. Resist the allurements of those who would lead away into devious paths, which end in disappointment and loss of character. Again, as regards science, see that you are not carried away by vague hypotheses, which seem specious at first sight, but which are not legitimate conclusions from observed facts. Try all such statements by cautious induction,—examine the facts on which they are founded. In your scientific researches do not ignore what some men have called sneeringly the Old Traditions, by which they really mean the Scriptures of Truth. Science and religion go hand in hand, and true science is never at variance with God's Word. The two books of Revelation and of Nature are complete and perfect as regards their Author. In the one we have a revelation in regard to matters of eternal moment,—that Word

which is true from the beginning, which cannot be broken, and which abideth for ever. As concerns the great truths thus revealed, he that runs may read. The Book is not intended to teach science.

The other book has been placed before us in order that it may be examined by the intellectual powers of man, and that its truths may be gradually evolved in the course of ages. The investigation of these truths, depending on man's powers of observation and research, must necessarily be imperfect. The pages of it are opened by one generation after another. Much error may be mixed up with these researches, and we cannot appeal to an authoritative revelation on these matters.

There may be science falsely so called—incomplete investigations—which at first sight may appear to be at variance with statements in Scripture. But all supposed opposition will disappear as science advances. We have no fear of true science. We cannot too carefully or too minutely interrogate God's works. There may be a mistaken interpretation of the physical facts mentioned in God's Word, and there may be difficulties as regards them which it is not easy to unravel, and which we may not now be able to explain. So far as our faith is concerned, there is no cause for alarm as to the teachings of science; and in regard to essential points, there are no contradictions in the two books.

In these days of scepticism, it becomes you as enlightened men of science to make a stand for truth, and not to be led away by hasty generalizations. Be not carried about with strange doctrines and speculations—"Prove all things; hold fast that which is good." Do not follow those who attempt to be wise above what is revealed, and who profess to have found out the secret of life in certain mere physical causes.

In your researches into the anatomy and physiology of the human body, you cannot have failed to see how fearfully and wonderfully it is made; and you have, I doubt not, come to the conclusion that there is something more required than the sun and protoplasm to animate our mortal frame. You listen to a voice saying, "Thus far shalt thou go, and no farther; and here shall thy proud waves be stayed." The part of true wisdom is not to rush rashly to conclusions from imperfect data, but to wait patiently for a full elucidation of the phenomena. Your duties are of a high and solemn nature. You come in contact with sickness and death in all their forms. You will be called upon to act with energy, decision, and prudence on many emergencies. Body and mind will alike call for your attention. You will be admitted into the family circle, and will become their help in the time of trial and danger. You will have great opportunities of being useful. You may do much to soothe the aching head and the sorrowful heart, and to smooth the pillow of care. A word in season to the troubled spirit from a kind and considerate Christian physician may be even more effectual than the ministrations of a clergyman. Never forget that your

patients have not only bodies to be cured, but also souls to be saved; and while you should avoid all ostentatious obtrusion of religion, show by your deportment that you have a high and holy view of the duties of your office. You will be called upon, it may be, to face disease in its most formidable aspects—the pestilence that walketh in darkness, and the destruction that wasteth at noon-day. Hold not your life dear, but, like good soldiers, encounter all perils in a brave and manly spirit. Cultivate a kind and cheery demeanour. Be ready to enter into the peculiarities of your patient's mind; encourage the depressed, and calm the agitated spirit. While you practise your profession, *caute, caste, probeque*, and do all that in you lies for the health of your patient, have a sacred regard for what is committed to you by him, and remember the words of the *Sponsio*:—"Quæ inter medendum visa vel audita sileri conveniat, non sine gravi causa vulgaturum." Take a noble view of your calling, and act accordingly; shun all that is sordid, mean, and unworthy of a gentleman. Be pitiful, be courteous. Have a sacred regard for truth and honesty in all your dealings, and avoid a quarrelsome spirit, which has sometimes been held up as an opprobrium of doctors. If it be possible, as much as lieth in you, live peaceably with all men.

And now, wishing you all health, happiness, and comfort in the exercise of your profession, we bid you farewell for the present; and in doing so, we commend you to Him who alone can preserve and keep you in all your ways, and who can at length bring you to the heavenly kingdom, where there shall be no more sorrow and no more sighing, no disease and no death, where the inhabitant shall no more say, I am sick, and where God shall wipe away all tears from every eye.

ARTICLE II.—*Successful Case of Artificial Respiration by the Sylvester Method.* By CHARLES MOORE JESSOP, Esq., Staff-Surgeon, Associate of King's College, London.

(Communicated to the Medico-Chirurgical Society of Edinburgh by Dr Aitken, 7th July 1869.)

THE following interesting case occurred on board ship, in 13° south latitude, as I was on my way to India in charge of troops, women, and children, in the year 1864.

On the 7th September (having been at sea for five weeks) a fine-grown and healthy-looking baby, three months old, was attacked with capillary bronchitis: it did well till the 10th, when a relapse occurred—the difficulty of breathing increased. The child, however, rallied in the course of the day, and between nine and ten the same evening appeared to be progressing favourably.

About a quarter to twelve I was called by the father, saying that the child was dead. I went down and found it lying in its mother's

arms, apparently dead. It did not breathe, nor make any effort at inspiration; there was no pulse; the pupils were contracted and insensible to light; there was a slight flutter in the præcordial region.

At the rate of twenty or thirty times in a minute, I alternately raised and depressed the arms for about four or five minutes, when the pallor of the lips began to abate. With the aid of friction to the feet and legs, I continued the process till the lips were crimsoned and the breathing was re-established. I gave a half-ounce enema of gravy-soup and brandy, and directed the friction with oil to be extended to the stomach and chest at intervals. I left him breathing feebly, but regularly, and without apparent difficulty.

About one o'clock I was again called by the father, saying, "He really is dead this time, sir." I found the jaw had fallen; respiration had ceased; there was no pulse; and, but for the contracted state of the pupils, I should have said the child was dead. I commenced the same process as before, and fortunately with a similar result. I left, but came back before 2 A.M., when I learnt that the respiration had gradually diminished in rate and strength, and that no inspiration had occurred for some time.

For the *third* time, I adopted the Sylvester method of artificial respiration successfully; and again at the hours of three, four, five, half-past six, and, for the last time, about eight o'clock in the morning.

Thus, *within nine hours, this child, three months old, but for the above method, must have died any one of those eight times.*

The enema of gravy-soup and brandy was given after each of the first attacks: afterwards, every two hours.

Artificial respiration, after the third attack, was not employed for so long: about five o'clock I was able to procure hot water for a warm bath, so that as the day wore on the fear and danger of death diminished.

The enemata of gravy-soup were given three times a day with half a dram of the syrup of iodide of iron, and his mother's milk instilled into his mouth. When he could nurse as usual the enemata were used only twice daily till the 22d September, when they were discontinued. As cough was still present, the syrup of iron was given by the mouth twice a day.

On the 25th September aphthæ appeared—a few drops of ipecacuanha wine were added to the mixture.

On the 30th of the month all trace of his recent illness had disappeared, and medicine was discontinued.

He remained well for the rest of the voyage, and I left him at the end of November at Poona a fat and rosy-cheeked baby.

This was the mother's second child, her first having died in Ireland of bronchitis at the same age. The father, a sergeant of the 106th Regiment, was an old soldier of wiry constitution. The mother, a plump, fresh-coloured, but short-necked woman, was about twenty-five years of age.

There are three points of interest in the foregoing case :—

The diagnosis of death, and its application to the means of recovery, by

The treatment of suspended animation by the Sylvester method ; and

The theoretical value of the other treatment.

The Diagnosis of Death.

Among the enumerated signs of real death I have not seen mentioned that of the fully dilated pupil. For many years past it has always appeared to me to be a point worthy of note, having a direct influence on treatment.¹ As far as my observation has gone, if a fully dilated pupil is found in connexion with the cessation of the respiration and the circulation, we may safely conclude that life is extinct, and that the process of artificial respiration will be futile.

In death beginning at the heart, it would appear to be the first fully expressed sign of death, as in cases of hæmorrhage ; but in asthenia and apnoea it would appear to be the latest in its occurrence.

Had it not been for the contracted state of the pupils in the case just recorded, I should not now have the pleasure of bringing this case to notice, for it was on this sign alone that I relied for the hope I gave the mother of recovery.

If, therefore, I should be again called on to treat a case of suspended animation from any cause, I would first ascertain the condition of the pupils before adopting any means of recovery. If I found them contracted or only partially dilated, I should proceed with a full assurance of success ; but if, on the other hand, I found them fully dilated, my practice would be but tentative and for the satisfaction of the bystanders.² A case of this kind occurred to me on board the same ship on the same voyage a few weeks later. A man fell down dead on the main-deck as the troops were sitting down to dinner. The occurrence took place close to the fore-hatch, so that no time was lost in commencing Dr Sylvester's plan of

¹ In 1851 I was called to a man asphyxiated in an open cesspool into which he had fallen backwards. I found him in the street, with neighbours, policemen, etc., dashing over him cold water for cleansing purposes. I detected a flutter in the præcordial region and contracted pupils. I had him conveyed on to a bed, set the people to rub him, and put hot bottles to his feet, etc. ; but being a young medical pupil, and not knowing any process of artificial respiration, I could not recover him. When the qualified man appeared he pronounced him dead—his pupils were then dilated.

² Dr Aitken does not consider that a fully dilated pupil is so certain a sign that it should prevent efforts at resuscitation ; because, in two cases of apparent death with dilated pupil from chloroform, he successfully reanimated both. To this I would reply, that as chloroform produces paralysis of muscular fibre, the mere temporary dilatation of the pupil from such a cause should certainly not prevent efforts at resuscitation ; and, that in the cases cited by Dr Aitken the successful issue was due to his present attendance, a knowledge of the cause of the disaster, and a speedy adoption of those measures likely to obviate a fatal paralysis.

treatment. The process was continued till dinners were over, though the absence of the "expiratory puff" showed that the man was stone-dead. At the post-mortem examination, fluid was found filling each of the three serous cavities of the chest; also, an aneurism of the ascending aorta.

The Treatment of Suspended Animation.

The principle of the process for artificial respiration, introduced by Dr Marshall Hall, consists in the alternate compression and expansion of one lung with movement of the heart from side to side. But in natural respiration, in inspiration the lungs, heart, and great vessels descend; in expiration the lungs, heart, and great vessels ascend; consequently Dr Sylvester's method, which imitates the complete acts and effects of respiration, is to be preferred; because, in the *first* place, it aids that diffusion of gases which takes place naturally in the lungs, for by the alternate dilation and contraction of the chest we endeavour to shift the stationary air to and fro in *both* lungs as in health, and so bring about gaseous exchange with the tidal air, averting "oxygen starvation and carbonic acid poisoning."

Secondly, It brings about the reflex action of the medulla oblongata, for the mucous membrane of the parts about the glottis is very sensitive to the least irritation, and the constant currents of fresh cold air, which are being sucked into the windpipe, stimulate the afferent nerves to the medulla oblongata, which in turn being stimulated gives rise to reflex action.

Thirdly, It "helps the heart to drive the blood the way that the heart propels it." The motion of the heart is dual. It has a thoracic or respiratory motion up and down, and a cardiac or circulatory motion forwards and outwards, backwards and inwards; the combined motion being a kind of circumduction. The supine position favours the passage of the blood through the heart, and reduces to a minimum the muscular force required to carry on the systemic circulation. Respiration tends to accelerate the flow of blood towards the heart, and brings the blood to the auricles by suction force through diminution of the atmospheric pressure on the walls of the chest. The blood, therefore, thus brought to the auricles enlarges them in all directions, and by its pressure, or the rolling over and over of its particles, stimulates the cardiac ganglia to reproduce the heart's intrinsic or erectile movement. This movement, favoured by the supine position, if once re-established, opens the tricuspid and mitral valves. In this manner, then, the blood is driven the way that it should go. May we not suppose that the stimulation of the cardiac ganglia by the pressure or movement of the particles of the blood is analogous to the stimulation of the medulla oblongata by the passage of cold air over the afferent nerves near the glottis?

In the *last* place, this process assists in the production of heat. Every contraction of muscle is attended by oxidation, and the extensive muscular movement the upper part of the body

is subjected to generates a large amount of heat, which must be conveyed by the veins towards the heart, and directly affect the cerebral, spinal, and sympathetic nerves and plexuses. Hence, then, when the circulatory and respiratory processes are at a standstill, we endeavour to set them again in motion. "Each," says Dr Huxley, "consists essentially of a kind of pump, which distributes a fluid (aëriform in the one case, and liquid in the other) through a series of ramified distributing tubes to a system of cavities (capillaries or air-cells) the volume of the contents of which is greater than that of the tubes."¹ Therefore, by this process, we pump into the lungs oxygen gas, and pump out carbonic acid gas; and we also pump into the heart blood to force, as it were, the cardiac ganglia to rouse themselves and open the flood-gates (tricuspid and mitral valves) to the stream of life.

The Theoretical Value of other Treatment.

I do not imagine that the exhibition of enemata had much to do with the restoration of the child, yet I should not have considered that every effort had been made for its restoration unless they had been used. The safety of the child was unquestionably due to artificial respiration; but whether the alcohol had anything to do with the increase of general vitality or not, I leave for others to decide.

With respect to the oleaginous frictions, I think they were of use, for not only did the oil facilitate friction in the production and diffusion of warmth, but it prevented the evaporation of heat. It must be recollected that the atmospheric tides were approaching their minor periods, and the magnetic and electric conditions of the earth were also near their lowest tensions; and it was of the utmost importance, in one so young, to husband all the heat we could summon to our aid. Therefore, after the exercise of the muscles of the chest and abdomen, and the use of friction to the lower extremities, the heat that had been called forth would have quickly disappeared, had it not been for the insulating property of the oil; and thus, whatever heat or electricity may have been excited reacted on the interior of the body instead of flying off into the outer air.

The condition termed anemia was well exemplified in this child, and shows how little we can judge by appearance of a sthenic or asthenic condition of health. Professor Haughton says, "Disease is a minor degree of life,"² which I understand to mean some fractional, and in the first instance imperceptible, departure from a normal

¹ Huxley's Physiology, 2d edition.

² "The primary essentials of healthy life are 'sufficiency of working power,' 'regularity in the rate of its evolution,' and 'proportionate distribution of the same to the various organs of the body.'" "Disease consists in any aberration from this condition of the vital force, either in respect of quantity, proportion, or time; giving rise to 'diminished vitality,' 'disturbed nervous equilibrium,' and 'functional irregularity.'"—Laws of Vital Force in Health and Disease, by Prof. Haughton.

standard of health—a condition, I imagine, rather difficult to find. In the case of this child we have, however, an example from which to theorize. He was placed in the most perfect hygienic condition possible—on board a ship hourly changing its latitude under the steady force of the south-east trade-wind, where plenty of fresh air and fine weather were to be found; nursed at regular intervals by a mother in good health, free from cares, and of cleanly habits; using good food and water—yet he was attacked with capillary bronchitis. I can only suppose this was brought about by some change in atmospheric pressure, whereby the volume of oxygen ordinarily inhaled was lessened—the stationary air in the lungs became overloaded with carbonic acid gas and watery vapour and the red blood-corpuscles did not receive their normal amount of pure oxygen—this reacted on the systemic circulation, and ultimately led to a slight *slowing* of the pulmonary circulation, probably increased by inherited tendency to lung-congestion; and we know that wherever the circulation is retarded, there we find an increased number of colourless corpuscles which, by their cohesion, obstruct the thoroughfare and so bring about congestion.

The drugs, then, supposed to be appropriate for this complaint, under the above circumstances, were administered and appeared at first to benefit; but, ultimately, left the patient in a worse condition than they found him, showing, that “the relief which some drugs afford is due to the fact that the excessive resistance which they have roused is followed by subsequent reaction.”¹ In this case, at least, the drugs were inappropriate, and instead of increasing, only lessened vitality, for the indications were to—

1. Increase general vitality;
2. Restore the nervous equilibrium; and
3. Regulate periodic action.

It is equally clear, also, that visible coloration does not always contra-indicate the exhibition of iron, and I have no doubt that the drug ultimately used would in the first instance have completely restored the little patient.

I suppose that the explanation of this florid appearance with a spanæmic condition of blood is to be found in the false estimate we make, through a thin and transparent skin, of the true condition of the circulating fluid. And I conclude, that if anæmia does not arise from a faulty state of assimilation, in some cases, as in the present one, it may arise from impairment of the respiratory function—that the circulation is not, through diminished atmospheric pressure, relieved of a portion of its water by the lungs, and that this excess thrown back on the circulating fluid tends to swell the red corpuscles, obscuring their contents, and leading ultimately to their destruction; or, that an allotropic condition of the oxygen is engendered in the bronchial tubes, which in its effects perhaps is similar to a deprivation of oxygen. In either way, we may account for the

¹ Prof. Houghton's Laws of Vital Force.

pallid condition of those who sleep in overcrowded rooms, and take no exercise, though using in all respects a sufficient diet.

In conclusion, allow me to thank you, Mr President and Gentlemen, for your courtesy in permitting me to appear before your learned Society this evening; and for the kind attention you have given to my paper. I am, however, more particularly indebted to my friend, Dr Aitken, for his suggestion that you would be interested in a case which so forcibly illustrates the maxim—*Nil desperandum*.

ARTICLE III.—*On the Therapeutical Value of the Sulphites.* By
J. W. MILLER, M.D., Dundee.

(Read before the Dundee Medical Society.)

THE researches of Professor Polli on the antiseptic powers of the sulphites, have induced many to put these powers to the test in their treatment of disease.

Professor Polli found that the anticatalytic power of sulphurous acid was also possessed by its compounds the sulphites and hyposulphites. He found that these salts could be taken by animals in large doses with impunity. He took some blood from a dog which had been taking the sulphite in its food for some days previously, and exposed it in an open vessel to the air; and at the same time he exposed, in another vessel, some blood taken from a dog which had not had the sulphite; the latter became quite putrid in a few days, while the former remained fresh above three weeks, thus proving the presence of the sulphite in the blood, and its power of resisting putrefaction. In a further stage of his researches, he took two dogs of about the same size, and both apparently in good health; to the one he gave two grammes of sulphite of soda daily, to the other none; otherwise they were treated alike. After five days he injected into the veins of both one gramme of pus from a foetid abscess. Both dogs suffered severely for about twenty-four hours, but next day were a little better, and took some food. The injection was then repeated to both dogs, the sulphite being continued to the first. Both again suffered for a short time with equal severity, but the dog which had been treated with the sulphite gradually recovered, while the other continued to get worse, and died ten days after the second injection. He made many further experiments on dogs with similar results, varying the nature of the poison injected, employing sometimes pus, sometimes putrid blood, and also the discharge from the nares of a horse affected with glanders.

The results of these experiments are very striking, as showing that the sulphites do possess, in a remarkable degree, the power of opposing the process, of whatever nature that may be, which is set

up in the blood by the reception into it of the poison contained in putrescent animal fluids; and it has been argued from these results, that in the sulphites we possess a remedy which should prove of the highest value in the treatment of the whole class of zymotic diseases. These high expectations have not, however, been fully realized in actual practice, and I have thought that it would be not without profit to communicate the issue of a pretty full trial which, when physician to the hospital here, I gave to the sulphites in the treatment of typhus fever.

During the year from June 1865 to June 1866, there were admitted into the hospital 884 cases of typhus. Of these, 161 were treated by the sulphites; sulphite of soda in most of the cases, and latterly sulphite of magnesia. The quantity administered varied from 60 to 240 grains a day—the most usual quantity for adults being from 120 to 180 grains a day. The following Tables show the result:—

Treated with Sulphites.

AGE.	MALES.			FEMALES.			TOTAL.		
	Number Treated.	Died.	Re-covered.	Number Treated.	Died.	Re-covered.	Number Treated.	Died.	Re-covered.
Under 10 . . .	3	...	3	2	...	2	5	...	5
10 and under 20	27	...	27	41	2	39	68	2	66
20 " 30	20	5	15	30	2	28	50	7	43
30 " 40	7	...	7	10	...	10	17	...	17
40 " 50	12	4	8	7	2	5	19	6	13
50 " 60	1	...	1	...	...	...	1	...	1
60 and upwards	1	1	...	...	...	...	1	1	...
	71	10	61	90	6	84	161	16	145
	Mortality, 1 in 7.			Mortality, 1 in 15.			Tot. Mortality, 1 in 10		

Treated without Sulphites.

MALES.			FEMALES.			TOTAL.		
Number Treated.	Died.	Recovered.	Number Treated.	Died.	Recovered.	Number Treated.	Died.	Recovered.
339	38	301	384	32	352	723	70	653
Mortality, 1 in 8.9.			Mortality, 1 in 12.			Mortality, 1 in 10.3.		

The total mortality shown here is thus the same in those cases which were treated with the sulphite as in those treated without; and although in the former class the mortality is somewhat smaller among the females, among the males it is somewhat larger: the dif-

ference in either case must, therefore, be considered as due to some cause apart from the operation of the sulphite. The sulphite seems, therefore, to have produced no effect whatever upon the issue of the cases either favourable or the reverse. Neither, during the progress of those cases which recovered under its employment, was there any amelioration perceptible in the concomitant symptoms and complications; nor, in those cases in which the range of temperature was regularly noted by means of the thermometer, was any effect observable either as regards the degree of elevation of temperature, or the period of the case at which the defervescence was complete.

Lest it may be surmised that in the sixteen fatal cases the employment of the remedy was not commenced sufficiently early, I may state that in eight of them its administration was begun on or before the sixth day (in 1 so early as the third day; in 2 on the fourth day; in 1 on the fifth day; and in 4 on the sixth day).

In addition to these hospital cases, I have tried the sulphite in several cases in private practice, with the same absence of effect. Two of these cases ended fatally, in one of which the sulphite of magnesia was given in half-drachm doses every four hours so early as the third day; in the other, it was not commenced till the sixth day.

In a considerable number of cases, especially among the females, the sulphite induced diarrhœa. This inconvenience would be easily obviated, however, were its administration of importance, by combining with each dose a few grains of compound ipecacuanha powder. Sometimes also, but not so frequently, the sulphite provoked vomiting.

If the sulphites possess any curative power whatever when administered after the full development of typhus fever, some manifest difference should have been observable in the course and result of the 161 cases in which they were employed, as compared with the remaining 723; and although the number of cases treated by the sulphites is not very large, I think that the facts elicited are abundantly sufficient to prove the uselessness of annoying such patients with the disagreeable draught, for the taste is sufficiently nauseous.

It should not surprise us, however, in my opinion, that the sulphites have so little, or rather no effect, when administered in a case of typhus, for the conditions differ very much from those in Professor Poilli's experiments. In those experiments the blood was first charged with the anticytolytic, and this being done, the virus was then introduced. But in practice, when we wish to employ the sulphite to counteract the fever-poison, we have to meet a very different state of matters. The poison has been received into the blood; the period of incubation is past, during which the poison has been doing its work unopposed, and it has matured into the full development of the fever before the anticytolytic is introduced to

counteract the morbid process. In order to render the experiment parallel, the virus should be first injected into the veins, and after the symptoms of septicæmia have developed themselves, the administration of the sulphite should be commenced. On the other hand, to have a case parallel to Professor Polli's experiments, the sulphite should be given before or immediately after the patient has become infected—a condition which is obviously unattainable. Although useless, therefore, after a fever is fully developed, I believe it to be quite probable that if—in the case of scarlet fever, for example, appearing in one of a crowded family, the other members of which could not be separated from the individual affected—the healthy members were to take the sulphite daily, they would be likely either to escape the disease altogether, or to suffer from it in a mild form; and under such circumstances, I think, it would be very desirable to give the remedy a full trial. It has often occurred to me that an instructive experiment, tending to show whether the sulphite has any value in this direction, could be very easily made by means of vaccination. A few children, about to be vaccinated, might be treated with the sulphite of magnesia for a few days before the performance of the operation, and the trial made, whether, under its influence, the inoculation of the vaccine virus would produce the usual effects.

Having seen the inutility of the sulphites in the treatment of typhus fever, I have not made any trial of them in the treatment of the other exanthemata. There remains, however, a class of diseases in which, I believe, they have been proved to possess great value—I mean, cases of purulent infection, or septicæmia. In midwifery practice, for instance, such cases are common enough. We have cases of abortion, in which the ovum is imperfectly expelled, and in which portions of the placenta are left adherent to the uterus, which shortly become putrid. In such cases the most serious consequences frequently ensue from the absorption into the blood of the putrescent material. In cases of adherent placenta, likewise, at the full term, the same peril is present. Under such circumstances we possess, I believe, in the sulphites a very effectual means of reducing the danger to a minimum. I have had several such opportunities in practice of testing the power of the sulphites, and with the most satisfactory results. One very marked case occurred to me within the last few weeks. After a very protracted and difficult case of labour, in which the child was hydrocephalic, the head requiring to be opened before delivery was effected, the placenta was found to be adherent. It required to be scraped from the uterus over its whole extent by the fingers, and doubtless numerous small fragments were unavoidably left here and there adherent, as was partly proved by the occurrence, a few days later, of considerable hæmorrhage, which was arrested by means of ergot. The woman lost much blood before the extraction of the placenta, was much exhausted by the long labour, and the uterus contracted

very imperfectly. The discharges soon became putrid, and the patient was just in the condition to favour the absorption of the putrescent fluids by the uterine vessels. I put her at once under treatment by half-drachm doses of the sulphite of magnesia every fourth hour. For a few days she was in a high fever, but nevertheless she made a rapid and complete recovery, and was able to walk out of doors within three weeks after her delivery. Several other similar cases have occurred to me, to give the details of which, however, would be of little use. They were either cases of delivery at the full time, in which, from retention in the uterus of coagula of blood, or of fragments of the placenta, the lochia became putrid; or cases of abortion, in which the placenta came away piecemeal, and in which, under the employment of the sulphite of magnesia, the constitutional symptoms were either slight or entirely absent. To be of any avail, I believe the remedy must be given in considerable doses, from half a drachm to a drachm every fourth or sixth hour, and, still more, that its use must be commenced early in the case, either before or immediately on the appearance of the constitutional symptoms. In one case of abortion in which the sulphite was not given until after the development of symptoms of blood-poisoning, it had not the slightest effect in mitigating the course of the disease, and the case ended fatally.

ARTICLE IV.—*Insanity in British Emigrants of the Middle and Upper Ranks.* By W. LAUDER LINDSAY, M.D., F.R.S.E., Physician to the Murray Royal Institution for the Insane, Perth.

WHILE travelling in New Zealand and Australia some years ago, and more particularly while residing in the province of Otago, New Zealand, I was struck with the evidences that everywhere presented themselves of the extent to which immigration occurs among males affected with the milder forms of mental defect or disorder, and belonging to the affluent classes of home society. My attention being thus accidentally directed to the subject, I made special inquiries thereanent in the course of my colonial residence and excursions; which inquiries I have since extended at home, with the following general result. I have convinced myself that, *inter alia*,—

I. This subject has not yet attracted in this country the notice it deserves. I have not been able to find in any of our medical or medico-psychological journals even a reference to this group of our insane countrymen, or to the relation between insanity and emigration or immigration.

II. Nevertheless, the subject is one of great importance—not

only as necessarily affecting the statistics of insanity, both in the home country and her colonies, but as bearing on the interests of numerous families at home, and those of society at large, and more especially as most intimately connected with the welfare of the unfortunate persons themselves, who are too frequently the victims, it is to be feared, of false views as to insanity and its treatment on the one hand, and of emigration and emigration-fields, health-resorts, and sea-voyages as therapeutic agents, on the other.¹

III. Serious errors are committed, grave responsibilities incurred, by all who are instrumental in sending persons of the classes aforementioned to encounter the inevitable hazards and temptations of a rough colonial life.

In the following remarks, I profess to do no more than merely introduce the subject to the notice of my professional brethren. I believe that every physician in ordinary or civil practice, as well as every alienist of large experience, will be able, from his own case-book or memory, to fill in the details of my outline with the parallel histories illustrative of patients who are daily presenting themselves to notice in all parts of this country.

My present observations refer to emigrants of the middle and upper ranks only, for several reasons. It is with this class of emigrants that I have myself come more especially in contact. It was concerning them that I had opportunity of making the inquiries above referred to. The forms of insanity hereinafter to be mentioned are, if not commoner, at least more familiar in the affluent classes of home society; while compulsory transmigration of the persons affected is also apparently commoner or more familiar among these classes. Insanity in the poorer grades of emigrants and immigrants is also an undeveloped or unexplored subject of great interest. It is, however, too extensive and too important for me to enter upon its discussion here. I content myself with simply indicating it as a theme worthy the attention of some of those young aspiring writers who are languishing for fresh fields of research in a domain which, it must be confessed, does not now offer much opportunity for originality. Some conception of the extent and importance of the subject of insanity as a concomitant or consequence of emigration and immi-

¹ A voyage round the world, visits to New Zealand and Australia, and repeated excursions to many of the more celebrated European "health-resorts," have convinced me that a vast amount of *error* prevails regarding the sanative influence of change of place and climate, and of sea-voyages. To some of the "fallacies of health-resorts and sea-voyages," I directed attention at the meeting at Edinburgh, in 1863, of the "National Association for the Promotion of Social Science" (Public Health section). Nor is the subject of *climate* itself properly understood, for it is far from being the *simple* subject that it appears to be. Its effect on the human system, whether in disease or health, *cannot* be duly estimated by any merely meteorological standard, such as temperature, moisture, or wind.

gration, may be obtained by perusal of the "Statistics of the North American Asylums," those both of the United and British States, which show a large proportion of Irish, Scotch, and English born persons in their respective populations.

My present observations have reference also exclusively to *males*. There were with me females of the class to which belong the male emigrants that form the subject of this paper. It is obvious that, in ladies, insanity of the character under review is less likely to be permitted to meet the public eye even at home. But I cannot doubt that many such insane females become married, and so propagate mental imbecility or disorder in their offspring; nor that a certain proportion of such offspring swells the category of these classes of male emigrants whose cases form our present subject of discussion.

Such emigrants are not, however, regarded as insane, either by themselves, their friends at home, or the colonists among whom they settle.¹ They are recognised as "having a want," or as possessing some peculiarity of habit or disposition that places their conduct beyond the bounds of even colonial license. But they are referable nevertheless to groups of insane patients that are familiar to all alienists in all civilized countries, viz., for the most part either to the category of, 1st, mere Mental Imbecility; or of, 2d, Moral Insanity.

The first class includes youths who are simply incompetent for business or for application of any kind. Sometimes there is utter indolence and indifference. Frequently there is a facility of disposition that renders them a prey to sharpers of all kinds. They are simply weak-minded, without any propensities that render their presence objectionable or dangerous to society. The second class comprises the youths more especially known as "ne'er-do-wells," or "black sheep"—the *bêtes noires* of families. In one sense, at least, they are "more *rogués* than fools." They generally exhibit propensities, too often regarded as mere vices, that lead to a breach of all the laws of good manners and sound morals; *e.g.*, propensities to intemperance, theft, lying, low or degraded society, filthiness of habit, animal cruelty, or brutality.

Some of these unfortunate youths have had all the benefits of the most careful educational training, occasionally in schools that profess to deal with pupils of defective intellect or vicious habits. Others have been in lunatic asylums in the home country—sometimes repeatedly, from which they may have been discharged in a condition of apparently complete, or partial and temporary, recovery.

¹ Accordingly, when it was my object to make inquiries of settlers regarding local cases, it was necessary to describe their characteristics, and not to speak of them as insane, lunatics, or madmen! Under these circumstances, there were few settlers of any standing who could not indicate local illustrative cases, or cases that had presented themselves to their own experience.

The theory on which those persons apparently act, who send imbeciles of the classes just mentioned, to our colonies, is somewhat as follows:—If the *patient* (I must call him so, regarding him, as I do, as the proper object of *medical* care and advice), having arrived at proper years, and possessed of suitable habit of body, shows no aptitude for, or indifference to, business, it is supposed that colonial life will benefit him by throwing him, as it is called, “on his own resources,” and developing, by the stern necessity for living, that energy which is simply dormant amidst the luxuries and affections of home. If, on the other hand, his habits are vicious, the object is rather simply extrusion from the reputable society, on which such habits bring disgrace no less on the individual than on the so-called “respectable” families to which he is related. Family credit is concerned: the patient’s fortune is not too curiously discussed; and there is a present feeling of relief at getting out of sight, and if possible out of ken, the “black sheep” who has been so long and so much a “skeleton in the cupboard”—a source of grief and expense to those to whom he is nearest, if not also now dearest. Occasionally it may happen that patients voluntarily become colonists: they *go* rather than *are sent* abroad. For instance, patients who have been in asylums in this country frequently have a feeling of shame—real or false—that leads them to go forth among strangers in strange lands, there to “turn over a new leaf,” it may be to begin a new life, or quite as likely to lead a more indifferent life as regards the gratification of their unhallowed passions and vicious propensities. By all classes of patients and their friends it is supposed, and to a certain extent correctly, that in young new countries, men of good birth at home may, without necessary loss of caste, engage in occupations that would be deemed menial in Britain.

It does not, however, appear to be sufficiently known, or at least borne in mind, that if such cases are at home surrounded by temptations to, or causes of, further degradation, mental or bodily, they are much more so in the colonies; where there is, moreover, as a rule, neither room nor sympathy for persons of the “ne’er-do-well” or “waif” class, where intemperance is a more general curse of society, and where several causes of insanity exist that would not affect the same class of persons at home, protected as they would be by the interests of families, if not affections of their relatives. Moreover, when insanity is of such a character as to require asylum treatment, the patient is infinitely worse off in the colonies than at home. In some of these colonies there are no asylums for the insane, other than the jail, which is the common receptacle of the imbecile, the maniac, and the criminal. In others, the lunatic asylum is a mere wooden hut or house, in which no distinction of class *can* be made; where, therefore, the higher and lower ranks, the refined or educated, and the coarse and untutored, are necessarily intermixed. Even where large asylums exist in our older colonies, they are built

mainly for paupers; there is in them a much greater mixture of ranks, much greater levelling of society-grades than at home—to the obvious detriment of the higher classes of patients. Thus, even the two large public asylums of Sydney are not at all adapted for patients of the higher ranks; while there is not a single private asylum in New Zealand, and only one in New South Wales.¹

Further, when insanity is of such a kind as to render judicial procedure necessary for the protection either of the patient or society, or both, the necessary steps too frequently cannot be taken, by reason of the non-certification of such cases as form our present subject by colonial medical men, who are unacquainted for the most part with the varied phenomena of insanity, and with its proper treatment, and who are, moreover, too frequently swayed by “the terrors of the law,” or by motives of a less worthy kind. Our colonial brethren, legal and medical, as too many of their home representatives do, look for furiosity or absolute fatuity, or for prominent and extravagant delusions or propensities threatening danger, or breaches of public peace or decorum, as essential grounds for the foundation of certificates of insanity. In Otago, Nelson, and other provinces of New Zealand, I was assured by the highest authorities² that an insuperable difficulty in the proper treatment of the milder forms of insanity lay in the fact, that medical men either could not, or would not, commit themselves to certificates. This state of affairs merely proves the want of a knowledge of insanity, and the absence of professional experts to whose decision doubtful cases might be referred.³

The position most commonly selected for mere imbeciles when sent to our colonies is the supposed simple and attractive Arcadian life of a “shepherd;” but the fact is lost sight of, or is not generally known, perhaps, that the solitary life of a shepherd in young, wild, sparsely-peopled countries is provocative of insanity even in the robust hinds who are fitted both by birth and training for so secluded an occupation. In Otago, shepherds are notoriously liable to insanity, this being ascribed by the colonists themselves to the solitary sombre life among the hills,⁴ far from neighbours, exposed to the weather, surrounded by scenery generally

¹ The condition of existing asylums in New Zealand and Australia, I propose discussing in a couple of separate papers, for which I have ample materials.

² Personal evidence on the legal and medico-legal obstacles to the proper treatment of the insane in New Zealand was furnished, *e.g.*, by, 1. His Honour J. H. Harris, Superintendent of Otago, and a Judge of the Otago Court; 2. His Honour the late J. P. Richmond, Superintendent of Nelson; 3. His Honour J. C. Richmond, Judge of the Otago Court; 4. Major-General John Cargill, Member of the Legislative Assembly.

³ The necessity for providing boards of experts both in New Zealand and Australia, I propose discussing in a separate paper, containing “Suggestions for the Proper Supervision of the Insane in our Colonies.”

⁴ On the subject of the relation of *solitude* to mental disorder, A. K. H. B. has some excellent remarks in his paper “Concerning Solitary Days,” in *Fraser’s Magazine* for February 1861, pp. 218, 219.

the most monotonous, consisting of "ranges (as they are there called) upon ranges" of yellow grass-clad hills. A former member of the Provincial Survey Staff of Otago described the *tedium vite* even of a surveyor's life as sometimes scarcely supportable. His own impression was, that, had he remained in the survey engaged in operations in wild unpeopled districts, his mind would have become disordered; while that of one of his colleagues had become affected—delusions of a dangerous kind having developed themselves.¹ These survey-officers dwelt on the extreme monotony and solitude or solitariness of their occupations, as strongly provocative of insanity: the bare and characterless "range-scenery"—in bad weather, confinement to a tent in which one cannot stand upright,—the want of books, and the absence of all society. Another case was brought under my notice, in which a healthy immigrant from home, whose brother was a runholder, became insane after only six months' experience of the solitude of an out-station up-country.

The rock on which the youthful emigrant of unstable habit, vacillating will, ill-balanced mind, most frequently suffers wreck of health—bodily and mental—is, however, drink: intemperance in the use of strong and coarse alcoholic liquors. What are called the "drinking customs" of pioneer colonists, and of the "roughs" who largely constitute society in young countries, offer much greater temptations to dissipation than do the habits of a more refined society at home. In the colonies, drink is the natural resource of the idle, excitable, and vicious; and not only is the habit destructive of physical stamina and subversive of good morals, but all evidence goes to prove that it is by far the *commonest cause of insanity in the colonies*.² Moreover, I find *suicide* almost invariably attributed in Otago to drink.³ Probably the influence of *intemperance as a cause of insanity and suicide* has been overrated in New Zealand and Australia, as it certainly has been at home; but there can be no doubt that, both at home and in the colonies, it is a much

¹ He fancied, *e.g.*, that his men had entered into a conspiracy to kill him. One night they were awakened to find him standing over them with a hatchet. On another occasion, he ordered "all hands" out of bed, to proceed with lighted Manuka brands to bury with great ceremony his theodolite! Delusion gradually gave place to mere irritability of temper, displayed chiefly in his very easily and unnecessarily taking offence at trifles. The assigned cause here was, anxieties connected with his professional position, and misunderstandings probably with his superiors.

² Remarkably unanimous and most decided opinions on this subject were expressed to me, *e.g.*, by, 1. The late Dr Greeney, Physician to the Parramatta Asylum, Sydney, N.S.W.; 2. Dr Campbell, Physician to the Tarban Creek Asylum, Sydney, N.S.W.; 3. Dr Stratford, Auckland, N.Z., formerly of Nova Scotia; 4. Dr Purdie, Dunedin, Otago, N.Z.

³ My note-book contains at least one case that created some sensation at the time of its occurrence, viz., the suicide by strychnia in an Australian capital—after, and as the result of, a long career of dissipation and debauchery—of the son of a well-known merchant in —, Scotland.

too common and preventible cause of disease and death, and their consequent misery or ruin to family groups, as at home also the frequent relation of intemperance to insanity is apt to be misunderstood.¹ Too generally the former is regarded as the *cause* of the latter; while in reality in many cases intemperance is only one of the *results* of insanity, though it undoubtedly acts as an aggravating or further cause of mental and physical degradation or degeneration.

The fortunes or misfortunes of mentally imbecile or morally insane immigrants, the effects upon their dispositions and habits of the rude friction and abounding temptations of colonial life, vary greatly; most fortunate are those whose imbecility is unassociated with vicious propensities, who have strength of will sufficient to resist the besetting sins of young states of society, and who are possessed of sufficient funds and friends to guide them safely through the earlier perils of a settler's life. In a primitive or pastoral state of society, such as that which existed in Otago prior to the discovery of Gabriel Read in 1861,² some immigrants of the class under review led peaceful, happy, and even sometimes useful lives in the first country districts—*e.g.*, as retired gentlemen, cultivating their home-farms or gardens, or as assistants to large runholders or farmers. The more intelligent and educated settlers, regarding such persons as virtually *insane*, treated them gently and kindly as such, extending to them the benefits of their patronage and protection. Under such protection it sometimes happened that a wonderful amount of energy was displayed, and a large measure of work of a somewhat responsible kind was confided to persons avowedly imbecile in mind. Thus, I saw such persons in Otago acting as ferrymen and draymen. In a condition of population and state of society in which every house is known to every other house, and is open to all comers, where hospitality is dispensed and claimed by every resident, and where the family life is patriarchial, masters, servants, and wayfarers all dining at the same general table, everybody and everybody's peculiarities are known, and the latter made allowance for. Family secrets cannot be concealed—insane patients cannot be effectually secluded.

More generally, however, misfortunes await the misguided youth of whom nothing can be made at home, who are there in everybody's way, and who are shipped to the colonies with what must be, in many cases at least, the vaguest possible hopes of their amendment in energy and intelligence—provided, that is, they remain in the colony, by reason of necessity, the want of funds or friends, or from choice or stupidity; for not a few have the sense, while their funds last, to find their way home by the first opportunity, without giving trial to any of the schemes arranged by themselves or their friends

¹ Their inter-relations are discussed in the 31st Medical Report of the Murray Royal Institution for 1858, p. 28.

² That of the Inapella gold-field in Otago, which was the forerunner of subsequent equally rich gold-fields, and gold-fields in Canterbury and Auckland.

for their becoming shepherds or sheep-farmers. I have met with cases of *this* kind that never quitted the vessel in which they went out, even to enjoy seaport gaieties, taking a return-passage, to the surprise of disgusted friends at home. Those who remain frequently start on their new career under most favourable auspices, in so far as they come furnished with introductions to wealthy and influential settlers, who are provided with amplitude of funds to be disbursed for their behoof. These settlers occasionally take the trouble to give places to their wards on or in their own "stations" or counting-houses;¹ but it is generally found that their "fast" charges have a greater proclivity for billiard-rooms and hotel-bars than for the desk or sheep-pen. Their patrons are sooner or later compelled, by reason of their utter incapacity for responsible office of any kind, or by the viciousness of their habits, to pass them from their own service to some office elsewhere of lower grade. If there is no vice of habit, they drift gradually into some of the following occupations: shepherds or draymen, navvies or common labourers, road-makers or road-metal breakers, coach-drivers or policemen, hotel-waiters or billiard-markers. On the other hand, the intemperate or vicious rapidly sink into pauperism or crime, or they die by disease, accident, or violence. This may be regarded as a highly-coloured or exaggerated picture of the ultimate fortunes or misfortunes of persons who, at home, occupied comfortable positions in society. But this is just one of the series of the accidents or vicissitudes of human life, in which "truth is stranger than fiction." Any narrative of travel or description of life in our colonies, especially during periods of great public excitement (*e.g.*, the gold mania of Australia, New Zealand, or California), will be found to contain numerous much more striking pictures of what may, in at sense, be considered "high life below stairs." I have myself, ^{over and over again,} seen "gangs" of road-labourers in Otago containing professional men in their professional broadcloth, whose misfortune it was, perhaps, and not their fault, to have sunk to this low level of mere manual or mechanical occupation; and the contrast between a man's former position at home and present occupation in a colony is frequently even greater than so common a picture presents.

I have had professionally under charge many patients of the ^{kind} who are under consideration; and I believe, as the result of a long-^{er} varied experience, that the most suitable residence for at least ^{of the} if not the majority, of them is a lunatic asylum of the ^{asylums} private family class, where they can have every indulgence and enjoy charge compatible with their peculiarities, and where they are ^{erected} comfortably

¹ More usually, mere letters of introduction are valueless; "respectable" settlers have the same objection to own any sort of connexion with ⁱⁿ it like a insane strays and wait as have their not more "respectable" relatives and they therefore generally take the earliest opportunity of ^{pol} 31st Medicine, getting rid of them once for all.

protected, *e.g.*, (1) against the predatory classes of society, to whom they would otherwise fall easy victims; (2) against the other dangers into which their untrained or unrestrained habits or propensities would lead them, such as vicious or low society; and (3) against the neglects arising from lack of affection on the part of relatives. Too frequently these patients cannot be said to have *homes*. They are mostly young single men, between twenty and thirty years of age, in comfortable circumstances, of able body, and often of agreeable manners, but they have proved such *bêtes noires* to married relatives and friends, who are respectably settled in prominent positions, that the doors and desks of those to whom they might otherwise have looked for protection and assistance are closed against them. At the same time, they are quite incompetent to manage homes of their own, and cannot with propriety be placed unprotected in lodgings or boarding-houses. If the latter experiment is tried, dissipation, imprudent marriages, and debauchery, or the other evils which follow more rapidly their emigration to the colonies, are almost the inevitable results.

Of the imbecile or morally insane immigrants to be found in our colonies, some were unquestionably insane in the home country, known by their friends to be such,¹ while a certain proportion had even undergone regular asylum discipline. In other cases, the seeds only of insanity existed. There was that peculiar constitution of the brain and general nervous system, in which insanity is easily developed under the influence of alcoholic stimulants, fast life, or even the anxieties inseparable from a novel position in a strange land, devoid of sympathy or brotherly kindness, surrounded by a cypers on the one hand and the degraded on the other.

In the latter class of cases, where a tendency only to mental disturbance exists at the time of emigration, insanity is occasionally developed on shipboard, *e.g.*, in crowded emigrant vessels, where its diniber treatment is impossible. I have been told of cases of mania liari-healthy and educated men, fastened in irons to confined sections secree hold during long voyages, in order to the prevention of danger seclv to the patient, his fellow-passengers, and crew. I have heard of

Macal patients possessing themselves of firearms or other lethal of wlons, such as crowbars, and requiring, for the safety of the ship body's one hand, and of the lunatic on the other, to be hunted down in marimular weapons like wild beasts. The confinement of insane ment its on shipboard too frequently resembles those cases, still occa-colony, occurring at home, in which maniacs are kept in cages for choice oies of years without ablution, clothing, fresh air, or exercise last, to fluch worse plight, in truth, than the more fortunate, though trial to atrocious, inmates of a menagerie.²

¹ Their in ne, Physician to the Dunedin Lunatic Asylum, and Provincial Sur-ray Royal In o, mentioned, *e.g.*, one case of direct import of insane cases from

² That of ti wett, of H.M.'s 65th Regiment, and sometime of Wanganui, sequent equal

Intimately connected with the subject of imbecile and insane immigrants, is that of the emigration of persons of the middle and upper ranks, who are simply vicious or criminal—"bad boys"—given at home to dissipation and debauchery, gambling and its consequent criminalities, such as forgery, but who cannot be considered, in a strict sense, medical or legal, insane.¹ Such youths, too, are sent or find their own way to the colonies in considerable numbers, where they add to the large population of "roughs," "loafers," "lags," and criminals. But important as the latter subject—that of immigrants of the criminal classes—is, more especially in relation to the character of society in the colonies, we cannot at all enter on its discussion or illustration here. It is, however, a social problem befitting the consideration of the "National Association for the Promotion of Social Science!"

As more fully descriptive or illustrative of the character of the imbecile or insane immigrants to be met with in all the British colonies in their position as regards general society and to asylum treatment at home and abroad, and as bearing on the whole wide subject of the relation of insanity to emigration or immigration, I venture to append, in briefest outline, a series of cases, arranged in two groups, the first of which occurred in my own experience, though they are drawn only from memory; the second quoted from works of colonial travel or the files of colonial newspapers.

APPENDIX.

I. *Illustrative Cases.*—1. Young single man of about 30, clerk in a business-house in one of our most important commercial cities; brother insane for many years, and under asylum treatment at home; himself unsteady and dissipated; suddenly threw up business, and wandered to his nearest friends, who placed him in an asylum on medical certificates of insanity. On discharge, as recovered from the mania resulting from drink, went to New Zealand, where he is as yet searching occasionally for and finding employment here and there, but of what kind does not appear; likely to be periodically insane and incapable of managing his affairs throughout life.

New Zealand, narrated the case of a wealthy settler with £2000 a year, who was sent to one of the Australian asylums, and ultimately returned recovered. The case was represented as one of ferocious mania, requiring the use of the straight-waistcoat in his father's house, till he was "shipped" to Australia for proper asylum treatment, this being impossible from lack of proper asylums in New Zealand itself. He was sent in a private sailing-vessel under charge of a keeper, whose only qualification was his physical strength. A compartment was fitted up for the patient in the hold, similar to the "boxes" erected on shipboard for horses, barred all round like a menagerie cage. In this he was confined throughout the voyage, not permitted beyond it, fed in it like a wild animal.

¹ The Inter-relations of Insanity and Crime are discussed in the 31st Medical Report of the Murray Royal Institution for 1858, p. 29.

2. Young single man, of about 30, scion of an ancient and noble house, with numerous wealthy and titled relatives, independent income, bred to no profession, becomes insane periodically, probably under the immediate influence of dissipation; has repeatedly been in asylums at home, public and private; went or was sent to Australia in the hope that he would become a squatter, but returned without giving trial to colonial life or occupations; will probably be subject to periodical outbreaks of mania or monomania, terminating in dementia.

3. Young single man, of about 25, of independent fortune, bred to no occupation, but tempted into dissipation by the pseudo-military life of the militia or volunteers; several times insane under drink, developing dangerous propensities, such as suicide and arson; more than once in asylums at home; went to South Africa, where, for a time, he tried farming, probably only to lose money thereby; contracted a foolish marriage greatly below his rank in life, the girl being utterly uneducated; returned to this country; at present engaged in a sedentary employment; tendency to insanity hereditary, father having died insane; danger of further attacks will continue probably during life.

4. A married clergyman, about 40, who had given rise to a *fama* in a country parish, was some time in a public asylum at home; demitted his charge and went to New Zealand, with a view to enter on some other calling; returned almost at once, without giving trial to the colony as a field of usefulness; produced on the few colonists to whom he carried introductions a feeling of want of confidence in his stability of character; they regarded him as "queer," and unworthy of holding any position of responsibility.

5. A young single man, of about 25, always "fast" or dissolute, repeatedly in asylums as a "voluntary" boarder, but without any permanent effect on his drinking propensities; went to the United States with good introductions; arrived in the garb of a beggar, and *blasé* with dissipation; returned only to resume the round of asylum experience in this country as a dipsomaniac.

6. Unmarried youth, of about 25, son of a professional man in large metropolitan practice, unfit for office work, sent to Australia in order that he might attach himself to a "station" as overseer; never went up-country, but remained with the vessel in which he went out while it was in port, and returned with it, contracting on the voyage home, though without funds, and wholly dependent on his father, an "engagement" with a colonial widow, not without encumbrance. Friends at first refuse to receive him on return; negotiating some new arrangement through an uncle.

7. Youth, single, of about 18, scrofulous, with a series of gland sores in the neck, an onanist and fast liver at a public school; despatched to New Zealand by his father as a reformatory measure; a scion of an old family possessed of landed property. Dissipated on the voyage out; on arrival, found his level behind the counter of a

man who had been a mere servant on his father's estate; subsequently went up-country to be a shepherd, and isolated from the temptations of a city.

II. *Illustrative Quotations.*—1. "There was, in the first cabin, a young man who was going to New Zealand, for the simple reason that his society was not required at home. He was what is termed in the colonies 'cranky;' that is, possessed of an unusually small modicum of brains, and having a strong tendency to imbecility."¹

2. "The predominance of this fearful malady (insanity) in New Zealand is, perhaps, partly ascribable to the fact, that many of those who emigrate to this country are of a romantic and unsettled disposition, and this leads to excesses of various kinds, which, I have no doubt, very frequently result in mental disorder."²

3. "Not long ago we recorded the case of a young woman who had to be taken to the lunatic asylum, within a few hours of her landing in Auckland from a London ship. The affair excited some interest at the time, as it was pretty evident that the relatives of the unfortunate woman had cast out this now helpless and afflicted being into the world, *to save themselves the expense of maintaining her!* A similar case seems to have occurred with the Winterthur,—a lunatic, who, it is stated, came out by that ship, having been taken in charge by the police. The poor man is evidently only fit for an asylum. He is a German, but can speak pretty good English. Nothing can be got from him as to his life previous to coming to New Zealand."³

4. "J. T. P., charged as a lunatic, was discharged on the certificate of Dr —, though, from all appearance, far from convalescent. Dr — could only report a slight improvement, but it was a merciful proceeding to give him in charge of his friends, as a further confinement in such a den would very likely lead to confirmed madness." "Considerable inconvenience and delay arose through the absence of witnesses from a distance, and it was with great difficulty that a qualified doctor could be found to examine the condition of the lunatic. The answer to the several applications was 'too busy;' but the real reason was the doubt about the fee, and the unpleasantness attending a visit to the lock-up and court."⁴

5. "The unfortunate lunatic J—, who gave the constable so much trouble to arrest him at the —, very nearly effected his escape a second time. . . . Only a few days ago he was released from the jail, in which he was confined as a lunatic, on the ground that he was in a dying condition. . . . The two medical men who

¹ Memories of New Zealand Life, by Edwin Hodder. London, 1862, p. 15.

² Auckland Provincial Government Gazette, February 12, 1858, p. 18; Report on the Provincial Lunatic Asylum by Dr M'Guaran, Provincial Surgeon.

³ Southern Cross, Auckland, May 31, 1865.

⁴ Referring to the District Court and Hospital at Hartley Township, the Finisterre, Otago.—Dunedin newspapers, November 17, 1862.

examined him were so much deceived as to his condition, as to depose on oath to his sanity; and, in consequence, he was allowed to go free. But the police deemed it necessary to continue their surveillance. . . . He remained for some days, at times showing evidence of a disordered mind, at others showing lucid intervals. At last the police found it necessary again to arrest him, and he was committed to jail. On the application of his wife, under the terms of the Act, he was released in a supposed dying condition, she entering into recognisance to take care of him. . . . He was no sooner out of jail than he recovered his health with astonishing quickness, and, in doing so, set at nought all the control she could exercise. He was again arrested, and after being kept a short time at the jail, he was sent to the lunatic asylum. There he was placed in one of the 'strong' rooms, constructed for dangerous patients. It is lighted by a skylight, which was guarded by bars. After a few days the man was missed. During the night he had, with mysterious agility, got up to the skylight by means of the smallest steps or notches, which he had worked in the wall. He had wrenched away the bars, which he must have done with a single hand, and while in an awkward and dangerous position. He had used one of the bars to smash the skylight frame, . . . and then he was, no doubt, very speedily through the aperture and off. . . . Had the madman not then been secured, it is terrible to think what might have happened during his promenade through the neighbourhood, armed with so formidable a weapon. . . . Eagerty (his captor) had a narrow escape from at least severe wounds. . . . Being brought before the magistrate, he was ordered to be locked up in the jail. There he commenced to yell and bellow in a frightful manner. . . . The jailer declared that if the lunatic was allowed to remain in the prison during that night, he would not be responsible for the safety of the 170 or 140 prisoners; that some of the number were of the most desperate and criminal character, and that it was almost certain advantage would be taken of the madman's din to attempt to break out. So Mr — had to pass to and fro between the jailer and the provincial surgeon, until at length Dr — thought it would be possible to secure the man at the asylum. . . . A sort of iron belt was placed round him, by which he was fastened to the wall, and he was also handcuffed; but the cunning and strength of the lunatic made child's play of the establishment and its resources. His liberty of action was not restrained, and in one corner of the cell was what is described as a 'stink-pot,' but which probably was meant for ventilation. This was speedily wrenched up. . . . He also contrived to cut through the iron belt. . . . The door had been jammed, so that it could not be opened; and before it could be forced, the maniac had smashed up a small bedstead, and arranged its wreck so as to form props against the door. The door was still being attacked, when it was found that, through a small aperture,

the lunatic had forced his way into the yard, got into a water-closet, and was in the act of clearing the wall when he was seized. Another instant, and there would again have been danger to the lives of citizens, and a hot pursuit after this most dangerous man.”¹

6. “Another terrible story of Australian bush life is thus narrated in the Marengo correspondence of the *Yass Courier*. Perhaps some of your readers may recollect that, about twelve months ago, I sent a communication to the *Courier* to the effect that several Marengonians had, while looking for stray cattle, been much startled by the sudden appearance and disappearance of a wild-looking man, hatless, with dishevelled hair and torn clothing; also, that I believed this poor creature to be no other than a certain ex-publican of Chance Gully, Burrangong, who had been driven mad through the gross dishonesty and shocking infidelity of a very near connexion. This surmise is now proved to have been correct, for last Monday the wandering maniac’s remains were found much gnawn and decomposed in the bush² between here and Young. The police are, in a measure, responsible for this horrible death; for the unfortunate deceased, after being given in charge, escaped from one detachment; and other members of the force, when two or three times informed of the lost one being seen near here, said it was not the man, and gave themselves no further trouble about the matter. Three or four private individuals made an unsuccessful effort to secure him. On one occasion, a few teamsters, camped one night near the Wambernunba Inn, were much surprised by the unhappy man making a dash at their ‘billy’ of tea, hastily drinking part of it, and then rushing again into the bush. Yet, though the authorities or their representatives were informed of all this, they appeared by their actions to evince but little interest in the affair; and thus the poor forsaken wretch was apathetically allowed to wander, day after day, until fatigue and want killed him.”³

7. “A steerage passenger . . . became insane during the voyage. On — he locked the door of his berth, and, charging a six-chambered revolver and a single-barrelled pistol, he declared he would shoot any one who entered. He also threatened to blow up the ship in case of disturbance, and had 1 lb. of gunpowder exposed in his berth, being, at the same time, in possession of a lighted lamp.⁴ Next morning the berth was entered, and the instruments of destruction were removed. That evening he attempted to dash out the brains of the chief officer with a block of wood; and since then the poor man has been strictly confined. G. was a man of

¹ Otago Daily Times, Dunedin, September 28, 1863.

² Colonial term for the primitive or indigenous *forest*.

³ Otago Witness, Dunedin, December 10, 1864.

⁴ I have known the risks of fire on shipboard in mid-ocean produced by the accidental ignition of bed-curtains by an inebriated lady. So long as the sale of spirits is directly or indirectly a source of profit to ship’s officers, these alarming risks must continue.

sober habits on board, and was not unwell for some time after he came on board.”¹

The following sketches refer to what must still be considered the typical colonial asylum. They no longer represent the condition of the asylums of Melbourne and Auckland, both of which cities have recently erected modern establishments; but they quite correctly illustrate the actual or existing state of residential or hospital provision for the insane in many other British colonial towns. The old Yarra Bund Asylum of Melbourne, Dr Keene describes as a “stone jail, cramped and ill-arranged, gloomy and comfortless, with a surrounding labyrinth of rickety sheds, abutting on miserable yards that afford less room for exercise than the decks of an emigrant ship!”²

The condition of the Auckland Asylum, which I visited in 1862, is thus described and commented on by a newspaper reviewer:—
“The present condition of a wooden shed set apart for the use of insane persons is *disgraceful to a professedly Christian community!* In some respects, the Auckland Lunatic Asylum would not compare favourably with those once notorious institutions St Luke’s and Bethlem. . . . Overcrowded as the institution is, we learn that it has been found necessary to confine two dangerous lunatics in the common jail of Auckland. . . . The requirements of both decency and morality were overlooked, because, we presume, the inmates of the prison and Bedlam were not likely to become potential at election times! We have no doubt that many persons have become confirmed lunatics and permanent burdens on the public funds, whose aberration of mind would have been removed by humane and judicious treatment; but the appliances which science and regimen require in the successful treatment of cases of mental derangement are wanting in our lunatic asylum; and the consequence is, comparatively few recoveries, overcrowding of the house, want of cleanliness, absence of control, and personal conflicts between the maniacs.”³

ARTICLE V.—*Continued Observations on Hæmoptysis.* By DR VALD. RASMUSSEN. Translated from the *Hospitals-Tidende*, Copenhagen, March 17 and 24, 1869, by WILLIAM DANIEL MOORE, M.D. Dub. et Cantab., M.R.I.A., L.K.Q.C.P.I., and R.C.S. Edin., etc.

(Continued from page 104.)

Secondary Hæmoptysis after penetrating Gunshot Wounds of the Chest.—Immediately after a penetrating gunshot wound of the chest,

¹ Southern Cross, Auckland, April 8, 1862, referring to the voyage of the Kinnaird from London to Auckland.

² The Australian Medical and Surgical Review, No. 3, article on “The Lunatic Asylum.”

³ Daily Southern Cross, February 7, 1863.

hæmoptysis usually sets in, and the amount of blood brought up is generally in proportion to the greater or less degree of direct violence the lung has suffered. These hæmoptyses are in general only of short duration, which is essentially due to the strong compression to which the lung is at the same time subjected, partly in consequence of the entry of air and blood into the cavity of the pleura, partly as a result of the pleuritic effusion which rapidly fills the cavity of the pleura; moreover, the secondary circumscribed pneumonia ordinarily developed about the lacerated pulmonary tissue will, by filling the air-cells with a dense exudation, compress the vessels; and in all probability, too, the peculiar contusion which the pulmonary tissue suffers, from the passage of the ball through it, will favour coagulation in the torn vessels. No special importance is attached by military surgeons to these hæmoptyses, and they are of far less consequence than the following dangerous leading symptoms attending penetrating gunshot wounds: pneumothorax, hæmothorax, and pleuritis.

Hæmoptysis may, however, occur after penetrating gunshot wounds, long after the external wound is healed, and it is to these hæmoptyses, which may thus be called secondary, that I would direct attention, as, so far as I have had access to the literature of the subject, they are not mentioned by writers. The case which I have myself had an opportunity of observing is the following:—

Captain D., of the 3d Regiment, aged 39, who had formerly always enjoyed good health, with the exception of having, as it seems, in 1852 passed through a slight attack of pneumonia of the left side, was, at the capture of an outpost at Dybbøl, on the 14th March 1864, wounded at a short distance by a rifle-ball in the left side of the chest. He at once fell to the ground, and the blood streamed out of his mouth; he had difficulty of breathing, and felt violent lancinating pains in the wound, from which only a small quantity of blood oozed out. After temporary bandaging at the ambulance, he was brought to the hospital at Augustenborg; on the way thither the dyspnœa increased considerably, so that he could bear the motion of the waggon only for a few minutes at a time, and the hæmoptysis continued. On more accurate examination of the wound, it was found to be penetrating.

For the first fourteen days he had moderate fever, but he seems, with the exception of the hæmoptysis, not to have had any of the prominent signs of a penetrating wound; particularly, there was no escape of air through the wound, nor any accumulation in the cavity of the pleura, and the hæmoptysis steadily diminished, so that even on the 31st March he was able to be removed to the hospital at Frederiksberg Castle. He was there placed under my care.

On examination, the track of the ball was found to be nearly six inches in length, in a direction from before backwards; the opening of ingress lying nearly in the anterior axillary line, close to the lower edge of the sixth rib; the opening of exit posteriorly about half an

inch lower. The edges of the wound were swollen, red; the whole wound was painful to the touch, slightly suppurating; no fracture of the ribs was perceptible; respiration was superficial, rather free; on deeper inspiration the shooting pains in the wound became violent; the patient was allowed to lie only on his back. Only a single blood-coloured clot was brought up during the first days. Pulse natural, general state very good. Physical examination showed no sign of accumulation of air or fluid in the cavity of the pleura, nor any infiltration of the lung; respiration was everywhere natural, only in the vicinity of the wound was it rather feeble.

During his further stay in the hospital the pains gradually diminished, the respiration became freer; splinters of bone of various sizes were repeatedly separated. On the 30th of April he was able to begin to get up. On the 1st of September the wound was healed, with the exception of a short fistulous passage, so that he was able to leave the hospital; the wound was not, however, perfectly healed until towards the close of the year.

On the 28th of November 1866, when feeling perfectly well, and without any cause, he suddenly got a very violent attack of hæmoptysis. From this time he continued to bring up clear blood, though in much smaller quantity, or a bloody gruel-like fluid with slight cough, generally after pricking pains, and a feeling of oppression in the region of the wound. He kept his bed for four weeks, after which time the hæmoptysis became less frequent, but it took place every time he either stooped down much or lay on the left side. The stethoscope revealed only slight feebleness of respiration in the neighbourhood of the wound. In July 1867 he went by easy stages to Eaux-bonnes, in the Pyrenees, where he remained for five weeks. The hæmoptysis, which had continued the whole time, and had, particularly on the journey, been considerable, almost wholly ceased towards the end of his stay at Eaux-bonnes, and he was so well that he was able to remain for a fortnight at the camp at Chalons, being during that time daily, and sometimes even all day, on horseback; so soon, however, as he recommenced railway travelling, the shaking lateral motion again brought on slight hæmoptysis.

After a course of the whey-cure in Interlaken he returned home, and was now particularly well; he had only a few slight attacks of hæmoptysis when he stooped much, until the 14th of March 1868, when, after having been long occupied in laborious writing, violent hæmoptysis once more came on, though less copiously than on the first occasion. In July he went once more to Eaux-bonnes; the hæmoptysis continued, being more severe while he was on the journey, but it again nearly disappeared towards the end of a three weeks' course of treatment. He then made another trial of the whey-cure at Interlaken, whence he returned home. An ulcer produced by moxa, which had been kept in a state of copious supuration, was not closed until November. From that time he has

been well, easily bears long marches, and takes part without inconvenience in field exercises; he is in good condition, his general health is quite satisfactory; only once did the hæmoptysis recur, namely, on the 16th of January 1869, when, on turning in bed, he suddenly brought up about three tablespoonfuls of clear blood. He has occasionally the usual cough, with which he brings up a single greenish yellow sputum; he states that he has a peculiar feeling of oppression in the region of the wound, which, as it were, compels him to cough, and which is relieved when he has expectorated. A recent stethoscopic examination yielded the same result as before.

There can scarcely be any doubt, that in this case we had to deal with a penetrating gunshot wound, as was diagnosed immediately after the injury by an experienced military surgeon. It is true that there were wanting not only the absolutely certain signs—emphysema, pneumothorax, and the escape of air through the wound—but also the signs of an accumulation in the cavity of the pleura (hæmothorax, pleuritis); and this total absence of these almost constant symptoms can be explained only by pre-existing firm adhesions, of which we have, in the history of the case, a satisfactory reason in a preceding pneumonia. Of the ordinary symptoms we had properly only one, but in a diagnostic point of view a very important one, namely, the hæmoptysis; it was unusually violent and persistent, which is explained by the fact, that the lung, on account of the firm adhesions, which did not allow it to yield before the projectile, had been struck much more seriously than might have been expected from the size of the external wound, and from the absence of pneumothorax and hæmothorax, the importance of which in arresting the hæmorrhage has been above spoken of. Whether there may possibly have been a circumscribed pneumonia, which is said to have had a duration of only from eight to ten days, could not, when I saw the patient, be decided.¹

Taking it, therefore, for granted that the ball perforated the lung, the next question is, what share this lesion has in the secondary hæmoptyses. That the gunshot wound stands in a definite and direct relation to the hæmoptysis is undoubted. For the possibility, which at first certainly existed, that the hæmoptysis might be due to pulmonary phthisis developed after the wound, as is stated by certain writers, must now, more than five years after the primary, and almost two and a half years after the first secondary hæmoptysis, according to the results of the physical examination, and the patient's otherwise perfectly good general health, be totally discarded. But, besides, the hæmoptysis has something so peculiar in it, which is not ordinarily observed, and which decidedly indicates a direct relation to the wound, as the lancinating pain in the region of the injury, which usually precedes the hæmorrhage, the occurrence of the bleeding when the patient lies on his left side, or makes certain violent movements, as in stooping—a circumstance

¹ *Traité de Chirurgie d'Armée.* par L. Legouest. Paris, 1863, p. 470.

which is so constant that he, unfortunately, has it, so to speak, in his power to produce hæmoptysis at will.

It is, however, much more difficult to give a satisfactory explanation of the circumstances under which these copious hæmoptyses occur, and it is only a more or less probable hypothesis which, after all, can be suggested, when every anatomical point in former examinations is wanting. A mere bullet-track through the lung, in an individual who survives the injury, is gradually filled by granulations, which, after a longer or shorter period, finally leave only a cicatricial streak; very often, however, as we shall subsequently see, a fistulous passage remains, which lasts for a long time, nay, even through the whole of life. That the track in the above case is not closed, at all events not completely, is indubitable; and the assumption appears to me to be most probable, that the bullet-track has remained open in a circumscribed spot, either by secondary osteophytic formation from the inside of the ribs—such a formation was distinctly observed on the outside—or by necrotic splinters of bone projecting into it; and, moreover, that the cavity so formed, being in open connexion with the bronchia, is partly filled by a spongy vascular granulation tissue. In the movements mentioned, especially stooping, in which a strong downward traction is exercised on the ribs, a more or less extensive hæmorrhage may, under such conditions, easily arise, purely mechanically, in consequence of the bony parts mentioned injuring the vascular granulation tissue. Under ordinary circumstances, only a purulent fluid is secreted from the walls of the cavity, filling it and giving the patient a sensation of pressure in the region of the wound; at last some of the contents escape into the afferent bronchia, causing the patient to cough and to bring up one, or at all events only a few purulent sputa, with simultaneous cessation of the feeling of pressure. Both from this, and from the negative result of the stethoscopic examination, it must be inferred that this cavity is only of small size.

It would hence appear that the prognosis in this case may be very favourable; it is to be expected that the cavity may gradually completely close, and the hæmorrhage therefore entirely cease.

As to the treatment, it was conducted on the ordinary principles; the visits to Eaux-bonnes seem to have had an unmistakably beneficial influence.

CASE 2.—Private Peter Olsen, of the 6th Regiment, aged 23, received, on the 28th March 1864, at Dybbøl, a gunshot wound in the back, the ball entering at the inner margin of the left scapula about one inch above the inferior angle, whence, fracturing the ribs it struck, it passed close under the skin to a little to the left of the spinous processes of the eleventh and twelfth dorsal vertebræ, where it remained, and was taken out the same day. During the first few days he had some hæmoptysis, and immediately after the

injury very considerable external hæmorrhage. The day after he was admitted into the garrison hospital at Copenhagen. A violent empyema was now rapidly developed in the left pleura, with considerable discharge of pus from both openings in the back. This condition, in which the patient became greatly exhausted, continued, with varying intensity, until the spring of 1865; but from that time we succeeded, by continued drainage of the upper opening—the inferior, whence the ball was extracted, had already closed—in gradually diminishing the discharge; but it was not until June 1866 that the patient could leave the hospital, and he had then, at the original opening of entrance, two fistulas, the one two or three millimètres in diameter, the other rather less. His general health was now, when he kept quiet, pretty good; he could, however, walk only very slowly, and all major movements of the left arm produced pain in the back, and sometimes cough.

In this state he continued, on the whole, until now, with the exception of the attacks of hæmoptysis, which he has had during the last two years, and the weakening effect naturally produced by them. The hæmoptyses, the first of which occurred on the 7th of February 1867, and the following, three in all, at intervals of about four months, had all about the same intensity, duration, and course. Violent movements of the left arm and walking rather quickly were, according to the patient's report, essentially co-operating causes of the occurrence of the hæmoptysis, as were cold and the increased cough produced thereby. The hæmorrhage commenced with the expectoration of some blood, then blood issued from the fistula, after which most blood came in this way, and only a little was coughed up. The discharge through the fistula and the hæmoptysis proper each time lasted about four days, and the quantity of blood lost is estimated at from 300 to 500 cubic centimètres (from about $10\frac{1}{2}$ to about $17\frac{1}{2}$ fluid ounces). During the last six months, in which the patient has kept the house, he has not had any hæmoptysis, but a considerable amount of pus continues, as it has done during the whole time, to be discharged from the fistula, occasionally mixed with small pieces of bone. When this discharge from the fistula perceptibly diminishes, the patient becomes short-breathed and gets a cough, which he otherwise usually has not, and while it continues, purulent expectoration is brought up. Into the fistula, in the immediate neighbourhood of which nothing abnormal can be discovered, and which passes in the direction of the highest point in the left axilla, an elastic bougie can be passed to a distance of eight centimètres, without apparently being much bent. On sounding, injecting, etc., no hæmoptysis ever occurred.

The sound on percussion is rather dull in the left infra-spinous and infra-scapular regions, otherwise it is normal everywhere, both on the left and on the right side. Respiration is everywhere vesicular; close to the fistula a faint metallic tinkling is occasionally audible.

The patient's general health is, as has been stated, good when he keeps quiet ; but from the constant loss of substance by suppuration he is emaciated, and the caution with which he walks gives the impression that he is weaker than he really is. He cannot bear any exertion, and can occupy himself only with light manual labour.

For this, in many respects, interesting case, I am indebted to Mr. Chr. Krarup of Amager, under whose treatment the patient has latterly been. I shall, however, not at present touch upon subjects to the discussion of which this case, considered as one of penetrating gunshot wound, might in many other respects give rise, but shall confine myself to the hæmoptysis and the points most closely connected with it. It occurred, as in the first case, very long, almost three years, after the injury, but was, in contrast thereto, much less frequent and less copious. While, in the former case, at least in the commencement, there might be doubt whether the hæmorrhage really proceeded from the wound ; in the present instance, this was from the first indubitable, as the blood, for the most part, sought an exit through the fistula left after the original canal. By splinters of bone making their way into the lung, with secondary and persistent suppuration, the fistulous passage probably became much larger than should have been expected from the original direction and extent of the canal. The cavity thus formed is in connexion with the bronchia, which is evident on the one hand from the fact, that when the discharge from the fistula ceases, a purulent fluid is coughed up ; on the other, from the circumstance that the patient has remarked, that in the unsuccessful attempt to effect closure of the fistula by stimulating injections, some of the injected fluids have, during the coughing so produced, reached his mouth, and also from his observation, that occasionally air blows out of the fistula. On the other hand, this communication cannot always exist, as in that case air should constantly pass in and out through the fistula, which it does not. The passage to the bronchia must, therefore, be assumed to be only narrow, as, moreover, the slightness of the hæmorrhage through the latter seems to indicate, so that it is easily plugged by the thick purulent secretion, and is opened afresh only on strong pressure, as by the injection of fluid through the fistula. That the cavity is only small is proved by its not admitting of the injection of more than two or three cubic centimètres of water, without producing violent cough.

The immediately exciting cause of the hæmorrhage seems in this instance also to be traumatic, especially violent movements of the arm, quick walking, and severe coughing, whereby strong pressure is exercised on the fistulous passage attached to the posterior wall of the thorax ; possibly here also the retained spiculæ of bone play a part, but the bleeding granulations are evidently much less vascular and vulnerable in this than in the first case.

CASE 3.—Observed by Dr F. Djörup, who kindly related it to me from memory. First-Lieutenant H. was, on the 23d April

1848, being then 33 years of age, in the retreat from Schleswig, wounded by a musket-ball, which entered at the inner edge of the inferior third of the right scapula, passed through the chest, and came out at the right side of the sternum. There was rather violent external hæmorrhage; the patient had not much pain except on movement of the right arm and on coughing, which was attended with copious hæmoptysis. During the following day he had smart febrile symptoms, pain in the chest, with copious expectoration mixed with blood; the wounds discharged only a small quantity of bloody fluid, but subsequently a large quantity of pus flowed from them. The thoracic symptoms gradually diminished, and the wound in front was perfectly healed in the beginning of the month of June. Shortly afterwards he was admitted into Frederik's Hospital. There was then found at the lower margin of the right scapula a wound of healthy appearance, and of about the size of an eight-skilling piece, through which a probe could be passed to the length of twelve inches, and from which thick pus flowed out on pressure. The patient did not feel particular pain except on coughing, which produced lancinating pains through his chest. The cough was frequent, particularly in the morning, with copious puriform expectoration. He was pale, not emaciated; his general health was very good. The sound on percussion around the wound, especially inferiorly, was dull; in other respects it was everywhere natural, as was the respiration, which only in the parts mentioned was very feeble. Moist râles were heard over the whole of the right lung. The patient's health gradually improved; a number of splinters of bone was discharged through the wound, which, in the beginning of August, seemed to be healed, so that the patient left the hospital and went to the country.

The thoracic symptoms nevertheless continued, and the copious expectoration soon became chocolate-coloured, sometimes quite sanguineous. The posterior opening also gradually healed, but subsequently broke out again with precursory great difficulty of breathing, and, with the very copious purulent discharge, fragments of clothing and small pieces of lead were expelled. The track of the ball, indeed, closed again, but although his condition improved a little in the course of years, he still always suffered from some shortness of breathing, and from ordinary attacks of cough, with copious expectoration, and no year passed without the latter being at certain times more or less mixed with blood, usually presenting the appearance of grayish-red porridge. His general health, however, did not suffer; he even grew fat, and a striking change took place in the points of his fingers, these becoming completely clubbed, as is occasionally seen in congenital malformations of the heart. In October 1866 he died, with uræmic cerebral symptoms.

In this case we therefore had a chronic, suppurating, foul bullet-track, probably with secondary bronchiectasis. The secondary hæmoptysis was long-continued and frequent, but never very abundant or spontaneous. It seems to be most naturally explained by

capillary ruptures in the bullet-track, produced by the violent fits of coughing.

These cases give me the opportunity of making a remark of a more general nature, namely, with respect to the relation of the hæmoptysis to pulmonary consumption. In my former essay I have endeavoured to demonstrate the untenable nature of the doctrine recently adopted by Niemeyer respecting the development of pulmonary consumption from cheesy pneumonic infiltrations, produced by irritation of the blood in hæmoptysis retained in the bronchia and air-cells. One of Niemeyer's pupils, Bürger,¹ has, in support of this very theory, adduced the case of perforating gunshot wounds of the chest, and has especially appealed to Piörny, who as proof that "tubercles" may be developed as the result of hæmorrhages from the air-passages, adverts to the frequency of the occurrence of pulmonary tubercles after such wounds with hæmoptysis. In the three cases now before us, however, we have not, notwithstanding the long-continued and copious hæmorrhages, seen anything of the kind. If the occurrence of this secondary consumption after penetrating gunshot wounds of the chest should really be established, which our home experience does not bear out, it appears to me that it is more naturally explicable by the frequently persistent and exhausting suppuration from the bullet-track, with formation of fistula and pyopneumothorax, than by the primary hæmoptyses, which are seldom to any considerable amount; nor, according to my observations, do the secondary hæmoptyses seem to be attended with danger in this respect.

ARTICLE VI.—*On the Action of the Cobra Poison.* By J. FAYRER, M.D., F.R.S.E., C.S.I.; Surgeon. Bengal Army; Professor of Surgery in the Medical College of Bengal.

(Continued from page 1011, vol. xiv.)

SEVENTH SERIES.

Present—Dr Fayrer; Dr Ewart, Professor of Physiology; and Mr Sceva, of the Indian Museum.

August 15, 1868.—The object of these experiments was to make careful observations of the symptoms during the action of the poison, to note the pathological changes during life and after death, and the microscopical appearances of the blood of a mammal in the healthy state, immediately before submitting it to the influence of the snake-poison, and to compare these appearances with those of the blood of the same animal after death from the snake-poison.

The examinations were made with the greatest care by Professor

¹ Ueber das Verhältniss der Bronchial- und Lungenblutungen zur Lungenschwindsucht. Dissertat. v. Carl Bürger. Tübingen, 1864, p. 11.

Ewart and myself with two microscopes, the power used being $\frac{1}{4}$ - $\frac{1}{2}$ of an inch, and they were repeated many times.

EXPERIMENT No. 1.—At 11.59 A.M., a small pariah dog was bitten in the left hind-leg, just above the carpal joint, by a daboia, the same snake that had been used in former experiments. The dog was put near the snake, which, though excited and hissing loudly, appeared disinclined to bite; on being irritated, it struck the dog in the leg as described; the wound bled freely.

It was nearly five minutes before the dog showed signs of the effects of the poison. He then began to stagger and seemed weak, and as if unable to co-ordinate the muscular movements of the limbs.

At 12.6 he lay down, breathing heavily; at 12.7 he rose and staggered a few steps and vomited. 12.9.—Gradually subsided on to his left hind-quarter; looks vacantly about him, but intelligent when spoken to. There is no indication of any suffering. 12.11.—Walks about when led, but very sluggish, and wants to lie down; weak in the bitten leg. 12.18.—Is walking slowly, staggering in the hind-quarters; has his head depressed, with the neck stretched out. Cold water dashed over the head seemed to rouse him partially. 12.22.—Lies down, weak and exhausted; no convulsions. Looks as though he were going to sleep. Takes no notice when spoken to. 12.42.—Lying down sluggish, and disinclined to move; can walk a little when roused. 12.46.—Respiration deep. Lying on the right side; appears generally paralyzed. 12.57.—Insensible; catching respiration. 1.5 P.M.—Dead. Died in sixty-six minutes.

Post-mortem, soon after death.—Part above the ankle-joint, where the animal was bitten, ecchymosed to an extent of two inches, and discoloured by dark bloody fluid. Decomposition commencing. A coagulum corresponded to the points at which the fang had penetrated. Blood in femoral vein fluid. Thorax opened. Lungs pale and bloodless; completely collapsed when the thorax was opened. Heart's right cavities contained fluid blood. The blood pressed out of the heart and from the great vessels in the thorax was fluid, with no tendency to coagulate. The left side of the heart empty. The liver healthy. Spleen enlarged. Stomach contained a quantity of food. Kidneys healthy. Brain taken out and carefully examined; it was healthy-looking and firm, perhaps more anæmic than quite natural. The blood was kept until next day, and there was no coagulation. Up to 1.54 P.M., no *rigor mortis*. The blood was most carefully examined before the dog was bitten, during the operation of the poison, and after death. There was nothing suggestive of the changes described by Professor Halford. The red corpuscles remained altogether unaltered. In one of the examinations after death, a few more of the white corpuscles were seen than we had observed in other specimens, but there was no peculiarity about them; and after most careful and repeated examinations, we could detect nothing that confirmed Dr Halford's observation.

EXPERIMENT No. 2.—A healthy medium-sized dog was bitten, at 12.4, in the left hind-leg by the *daboia Russelli*. It was not certain that the fangs penetrated. The mouth of the snake was also brought in contact with the right thigh and the lower part of the abdomen, and the fangs were struck lightly into the parts. The snake was one that had been used on former occasions, and was weak, and probably almost exhausted of poison.

1.20 P.M.—Lies down; looks depressed; evidently affected by the poison. 2.3.—There has been very little change during the last forty minutes. Lies down quietly. There are abdominal contractions, as of irregular action of the diaphragm. 5 P.M.—When roused moves about, but is sluggish and weak. Steps irregularly with a staggering gait, crossing the hind-legs, at other times keeping them wide apart. After walking a little, the steps became more regular and steady. The dog having usually been fed at this time, food was offered, but he refused it. 6.30.—Quiet; no symptoms of pain or convulsions; perfectly conscious; when spoken to, responds readily by raising his head and wagging his tail. Is insensible to pain if irritated in any part of the body. In some of the former experiments it seemed as though anæsthesia were produced on the limb that had been bitten. The dog gradually drooped, without any sign of pain; no spasm. Died at 8.15, eight hours and eleven minutes after being bitten.

In this case death was very slow and painless. It seemed more like a gentle lethargy stealing over the animal, and gradually increasing until death. There was no sign of pain; no convulsions; just before death the defecation was of a muco-sanguinolent character, having been perfectly natural before being bitten. The body was examined soon after death. On raising the integument, it was found that the deepest wounds from the snake's fangs had been received in the middle of the lower part of the abdomen, but they had not penetrated deeper than the adipose tissue. Several small punctures (4 or 5) were found in the side of the abdomen and in the inner part of the thigh.

The *post-mortem* appearances of the thoracic and abdominal cavities were exactly the same as in the former case, except that the spleen was healthy in this case. The blood was watched for 14 hours, and it did not coagulate; and, being carefully examined under the microscope, presented no change from the normal condition.

The results of these experiments, which were conducted with great care and every precaution to exclude sources of error, may, I think, be accepted as almost conclusive that death is caused by the action of the poison on the nerve-centres generally, and not by its operation on any special one. The condition of the thoracic viscera proves that it is not due to pulmonary congestion or asphyxia. The fluid state of the blood, although no change in its corpuscular elements is appreciable, tends to show that it is the direct channel through which the nerve-centres are injured. In both these cases

death took place slowly, giving ample time for any changes, such as described by Dr Hafford, to take place. It is worthy of notice that in both cases there was absence of any convulsions or tetanic spasms. This may be attributed to the animals having received a smaller dose of the poison, and that administered by comparatively exhausted snakes. In other cases, when the animal bitten was smaller, and the daboias were more vigorous, the effect in producing convulsions was marked, and death took place more rapidly. Where the poison operates slowly and feebly, as in these cases, there is very little, if any, difference in the symptoms from those produced by the cobra poison administered under the same conditions.

EXPERIMENT No. 3.—*August 17, 1868.*—A half-grown pig was placed in a large box with a full-grown cobra, of the variety called by the natives *keautrah*. The snake had been used before, had been some time in confinement, had probably not eaten for some time, and consequently might be expected to be weak and comparatively feebly poisonous. The snake seemed indisposed to bite until irritated, and the pig stepped on him, when he seized it by the right fore-foot, just above the hoof, and drew blood. The pig lay down at once, appeared very much frightened; the snake also appeared terrified by the pig, and lay for a moment, as though he were seriously injured. The pig made no attempt either to attack the snake or defend himself; he merely tried to get out of the way. The snake bit at 11.55 A.M.; and as the pig was lying down, the bitten leg was drawn up in a jerking and convulsive manner.

11.59.—Got up and ran about the room; the bitten limb evidently weak. Lay down again; right fore-leg twitching in a convulsive manner; is generally restless. 12.—Rose and lay down again. The bitten leg always convulsed in lying down; places it under its body, as though to prevent the involuntary movement; working the mouth; making efforts to retch. 12.3.—Roused up; squealing lustily; quite able to walk when roused, but when left to himself lies down; eyelids droop, and looks sleepy. 12.5.—Roused; rests himself against the wall. 12.6.—Resists efforts to rouse him. 12.10.—Lying down; bitten leg uneasy, but not so much convulsed as at first. When roused he walks; appears to be much weaker. 12.17.—Lying in the corner of the room with his left side against the wall. Twitching occasionally in the bitten limb. Eyelids closed occasionally. One can now see that he has been bitten just above the hoof posteriorly. 12.25.—Can use the limb; holds it up when he stops; limb convulsed at longer intervals. 12.28.—Lies down; some slight general uneasiness. Convulsive twitching affected posterior extremity. 12.30.—Fore-leg put forward; then convulsion more evident. When roused, walks; holds up the limb as if from pain in pressing it on the ground; puts it down when pushed. 12.45.—Roused up. Twitching. Lies down. 1 P.M.—Unless roused, lies down against the wall. Twitching now in right hind-

leg. 1.32.—Pig bitten again by a new and fresh cobra in left thigh and in the snout. 1.35.—Twitching in the bitten leg. 1.40.—Gets up when roused; still twitching in hind-leg. 2.7.—Good deal of twitching in hind-leg; twitching in rapid succession; it sometimes affects corresponding anterior extremity. Twitching also of the facial muscles and of the orbiculares palpebrarum. Lying flat on his side with his legs stretched out. 2.15.—Roused him up; great loss of nervous and muscular power. When he got up, he did so with much difficulty; propped himself up against the wall; staggered and fell down. 2.25.—Very lethargic; cannot stand; when placed on his legs, he falls down; same debility characterizing general muscular system noticed in those muscles which affect the organs of *speech*. His squeal is now a mere whine. He is anæmic, conjunctivæ pallid. The right fore-leg first bitten is ecchymosed much up to the elbow-joint. Considerable twitching in muscles of the face, showing that the poison has affected this part in the same way as it has the muscles of the fore and hind legs. 2.40.—Respiration catching; gasping; convulsed in the posterior extremities; lips, mouth, and conjunctivæ pallid; eyes fixed; insensible to light; pupils dilated; irides unacted upon by light; almost comatose. Bitten first at 11.53. Bitten second time at 1.32 P.M. Died 2.50, nearly three hours after being first bitten.

Sect. cadav.—Blood in sinuses of the brain, as in the whole venous system up to the right auricle and ventricle, which were distended with blood. Sections of brain, thalamus, and corpus striatum and medulla oblongata, pallid in the extreme; scarcely a vascular point to be seen. Lungs quite collapsed and anæmic; left ventricle and auricle empty. Liver, kidneys, etc., healthy.

Wounds.—Right fore-foot bitten at 11.53 A.M., and leg greatly ecchymosed; coagulum marks the entry of the fang. Tissues discoloured from rapid death (local) and decomposition. Right hind-leg bitten at 1.32 P.M.; less ecchymosed; mark of fang indicated by a point of coagulum of a dark colour. Bite on right ear also ecchymosed, also snout, in both of which places he was bitten. Blood coagulated in all the veins after being opened for an hour; coagulum firm. Microscopical examination of blood shows nothing unnatural, excepting perhaps a slowness of the red globules to run into masses like piled coin in rouleaux. The fact that this pig was twice severely bitten, and that death did not occur for nearly three hours, seems to show that the animal is not very susceptible. A large dog would probably have died in less than half an hour. It is true that the first cobra, though a large and powerful one, was probably somewhat exhausted, but the second was perfectly fresh, and had only that morning been brought in by the snake-catcher, freshly caught.

EXPERIMENT No. 4.—At 12.53, a small dhamin (*ptyas mucosus*) was bitten by a fresh cobra about five feet in length. 12.59.—Dhamin

weak and sluggish in his movements. 1.3.—Bitten again by the same snake. On the floor, moves slowly and with difficulty; growing manifestly weak. 1.12.—Gasping for breath; very low; voluntary muscular power gone. Still, when roused, can move and raise his head, as if he had been roused from a state of overpowering nervous oppression. Breathes slowly and imperfectly; does not half fill his lungs. Bitten at 12.53. Died at 1.14 P.M. Dead in 21 minutes. This is further proof of the deadly action of the poison on innocuous snakes.

EXPERIMENT No. 5.—At 12.55 P.M., a large cobra was bitten by a full-grown, freshly-caught cobra; they were both of one variety, that marked with one ocellus in the hood, the *keauteah* of the snake-catchers. The scales were scraped off, and the snake was made to embed his fangs deeply in two different places about 10 inches from the head. There could be no doubt of the penetration or of the injection of a large quantity of poison. At 12.59 five drops of cobra poison, taken from the snake, were injected, by means of the hypodermic syringe, into the muscles of the cobra's back. 1.30.—No effect produced; the cobra is as lively as ever. 1.45.—Still unaffected. 4.30.—Still unaffected. 18th Aug., 5 P.M.—The snake is as well as ever. This experiment goes far to prove the immunity of the cobra from the noxious effects of the poison of its own species.

EXPERIMENT No. 6.—1.20 P.M.—Civet cat (*viverra Malaccensis*) bitten by a daboia. The snake struck in more than one place. 1.25.—Appears paralyzed. 1.26.—Appears almost dead. 1.30.—Still breathing imperfectly; stretches his legs as if from spasms. 1.32.—Got up on his fore-legs and vomited; lying down exhausted. 1.37.—When roused, he seized a stick, but is evidently half paralyzed in the hind-quarter; lies down again on left side. 1.40.—Gets up again when irritated, breathes hurriedly, and lies down at once. Evidently very drowsy and much exhausted. 1.47.—Tries to get up of his own accord; finds he cannot; rolls over on other side; right hind-leg paralyzed. Continues restless and endeavouring to move, and has again succeeded in changing his position. 1.57.—Lying flat on side with all his legs stretched out. Can be roused, but his hinder extremities still paralyzed, and he does not give fight as before. Is uneasy and restless. 2.12.—Roused; walks about much better, but his right hind-leg is very weak; quite paralyzed. Put into his cage; gave much more fight. 2.30.—Seems reviving, but he is restless and manifestly uncomfortable; lying down, and at full stretch, on side. 4.15.—Purged freely; very low; evidently at the point of death. 4.25.—Convulsive movements for two or three minutes; stretching the limbs, etc. 4.36.—Dead.

Body examined, showed the animal to have been bitten on the nose, on the side of the head (in the temporal muscle), and in the

thigh. The post-mortem appearances of the viscera were like those in other animals. This viper was the same that had been frequently used in other experiments before described, and must have been considerably weakened. The deadly nature of the snake is manifest from this continued power of inflicting mortal wounds, and it is probable that it has the power of rapidly secreting fresh poison. It is regarded with great dread by the snake-catchers, and evidently with good reason.

EIGHTH SERIES.

11th Sept. 1868.—I am indebted to Messrs Greenhill and Rutherford, veterinary surgeons, for the opportunity of making the following experiments. The horses experimented on had been condemned to be destroyed for the disease, partial paraplegia (gone in the loins), and were placed at my disposal by the above gentlemen, for whose valuable aid in noting the symptoms and recording the pathological conditions I am under much obligation. The disease, though incapacitating the animal for work, is not such as to reduce his strength so much as to vitiate the evidence derived from the effects upon him of the poison; and I believe these experiments may be accepted as fair illustrations of the action of snake-poison on the larger animals. The subjects experimented on were a stud-bred mare about 14.3 high, and aged 27 years, suffering from partial paraplegia, and an Australian horse, 15.1, 9 years old, a powerful animal, and in good condition, though also paraplegic. The mare succumbed in an hour and twenty minutes from the effects of the bite of a large cobra; whilst the stronger and younger horse survived the bite of a powerful, fresh, and full-grown daboia nearly twelve hours.

The difference in the effects of the poison of the daboia and cobra in these two cases is very remarkable, not only as to the duration of life in the animals bitten, but also in the pathological conditions before and after death.

The mare bitten by the cobra was rapidly affected—staggered, became exhausted, and died in less than an hour and a half. The post-mortem examination showed distinct *rigor mortis*, firm coagulation of the blood; the heart and large vessels, aorta as well as *venæ cavæ* distended by firm ante and post mortem coagula. The lungs were very slightly congested, frothy when cut into, and on the anterior surface rather pale and bloodless than the reverse, whilst all the abdominal viscera were equally free from congestion. The horse bitten by the daboia, on the other hand, was affected very slowly, and seemed to doze his life away until just at the last, when a few unconscious plunges terminated his existence; the post-mortem in this case showed less cadaveric rigidity, fluid blood, empty cardiac cavities, and lungs and other viscera congested.

But it is to be noted that the cobra bit more vigorously, forced his fangs deeper, and had to deal with a more feeble animal than the daboia, who bit a more powerful and healthy horse, and did not insert his teeth with such vigour as the cobra. The snakes were both fresh and full-grown, and their terrible power was strikingly illustrated by the death of these two horses.

The difference observed in the pathological appearances and state of the blood after death may probably be accounted for by the greater rapidity of death in one case, rather than by any essential difference in the nature of the action of the poisons. The mare bitten by the cobra died in eighty minutes, and after death the blood coagulated firmly, and was found distending the heart and great vessels with firm coagula. Death was probably caused by the rapid effects of the poison on the nerve-centres, before the blood had time to be thoroughly devitalized. In the other case, where death did not occur for nearly twelve hours, there was no coagulation either in or out of the heart or vessels; sufficient time had elapsed to allow the blood to be thus thoroughly changed. I am inclined to believe that if death were protracted after a cobra-bite, the condition of the blood would be as it was in the case of the daboia-bite.

EXPERIMENT No. 1.—A bay Australian gelding, 15.1 high, nine years old, and partially paraplegic (but otherwise a strong, well-conditioned horse)—pulse 42, soft; respiration 48 per minute—was bitten by a full-grown fresh daboia Russelli near the lower part of the neck, over the track of the right jugular.¹ The snake struck vigorously and drew blood freely. The time was 12.15. 12.19.—Respiration 58 (gone up 10); pulse still 42. 12.30.—Respiration 64; pulse now 64. The puncture swollen. 12.52.—Lies down; looks languid; pulse 80 and weak. 1.1.—Twitching of head to the near side; horse still down and very dull. Lower lip pendulous; muzzle resting on the ground; sight and hearing natural. 1.5.—A spasmodic twitch of the muscles of the neck; patches of urticaria, about the size of a shilling, making their appearance on the abdominal surface. 1.9.—Pulse 70, intermittent. 1.6.—Pulse 76; respiration 52. Can rise from the recumbent posture without much effort. 3.—Pulse 80, tremulous and intermittent; horse looks dull and sleepy; yawning, getting up, and lying down again very frequently, as in colic. 4.30.—Pulse 67, weak and intermittent; breathing hurried; horse standing, but very dull; wound swollen, and very painful to the touch; mucous membrane of mouth pallid; ears and legs cold; body moderately warm; when roused is quite sensible. 6.—Horse lying down, breathing heavily; pulse, almost imperceptible at the jaw, 60; fugitive colic pains. 9.30.—Breathing stertorous and very heavy; body and extremities cold; pulse imperceptible; horse drank a little water, but is evi-

¹ The vein was not penetrated.

dently sinking; region of wound much swollen and very painful; purging thin, watery fæces (they were quite natural when the horse was bitten). 11.45.—Down and struggling; getting up and moving to and fro in the loose box restlessly; then lying down again and struggling with all four legs; straining and passing small quantities of watery fæces with flatus. 12.—Dead. Bitten at 12.15. Died at 12, midnight—*i.e.*, in eleven hours and three-quarters.

Post-mortem, 12 hours after death.—Cadaveric rigidity moderate; abdomen distended, and mucous membrane of rectum partially congested and swollen; vicinity of wound blackened by infiltrated blood in the cellular tissue. Muscles all discoloured, and general venous congestion apparent. *Thorax*.—Heart, right auricle empty; right ventricle contained a little frothy blood; left auricle and ventricle both empty; substance of heart firm, but presents numerous small ecchymosed spots. Larger bloodvessels as usual. Blood in them fluid. Lungs congested. Liver and spleen congested. Mucous surface of intestines in a highly irritable state, congested and thickened. Other viscera healthy.

EXPERIMENT No. 2.—A stud-bred mare, about 14.3 high, aged 27, suffering from partial paraplegia and emphysema of lungs, but otherwise strong, was bitten at 12.22 in the integument of root of the neck on the right side, and just above the right nostril, by a full-grown, fresh, and vigorous cobra (*naja tripudians*). The punctures bled freely. Before being bitten the pulse was 57, respiration 36. 12.26.—Pulse 60; restless; moves the head about in an uneasy manner. 12.35.—Looks anxious and restless; leans hind-quarter against the wall; twitchings of nostrils; eyes staring; tapetum lucidum shining brilliantly; ears retracted; tail raised. 12.43.—Staggering; keeps the hind-quarter resting against the wall, as though to prevent falling; staring, anxious eye. Patches of urticaria rapidly breaking out over the body. 12.44.—Pulse 64, wiry. Spasmodic twitching of the pectoral muscles; staggers much in the hind-quarters. 12.53.—Straining, but nothing passed; so restless now that the respiration cannot be counted; the wound is swollen and painful; urticaria profuse; drinks freely of cold water; eats hay. 12.59.—Looks sleepy; staggering; left off eating. 1.12.—Same state; right fore-leg twitching in a spasmodic manner. 1.20.—Intense restlessness; staggering; tremulous action throughout the whole muscular system. 1.27.—Drinks water freely; tries to move about in the loose box, but staggers so much that it keeps on its legs with difficulty. The right side of the upper lip seems paralyzed. Pawing restlessly with right fore-foot. 1.32.—Lies down. 1.36.—Peculiar spasmodic action of *paniculus carnosus*. The horse is evidently dying; convulsive plunging of all four legs. Head drawn towards the chest. (This, Mr R. says, is very unusual.) 1.42.—Muscular twitching over the whole body. 1.43.

—Dead. Bitten at 12.22. Died at 1.42—*i.e.*, in one hour and twenty minutes.

Post-mortem, one hour and a half after death. *Thorax*.—Lungs, slight hypostatic congestion; surface natural colour. *Heart*.—Cardiac cavities distended with firm coagula. The clots were very firm, and were partially decolorized, probably indicating their ante-mortem origin. The great venous and arterial trunks, especially the aorta and *venæ cavæ*, plugged with firm coagula; blood that was removed from the jugular vein, found after death coagulated firmly. Blood examined under microscope, with No. 3 eye-piece $\frac{1}{4}$ -inch object glass (Nachet), was natural; no change in the corpuscles. The liver and spleen were normal, not in the least congested. There was *rigor mortis*. I examined the blood of the horse killed by the daboia about 18 hours after death; it was dark and perfectly fluid; no coagulum had formed. On placing a drop of it under the microscope, the field was filled with rhomboidal tabular and acicular crystals probably of hæmato-crystalline, in great abundance. The corpuscles appeared to have been dissolved or disorganized, and the few that I could find, after repeated examinations, were apparently the ordinary blood-corpuscles shrivelled and partially broken down. The weather being hot and damp, the blood had probably become somewhat decomposed, and therefore I am unable, beyond describing the crystals, to give a very reliable account of the changes that had occurred. It appears to me it is in a case like this, where death was protracted, that if any structural changes take place in the corpuscles, one should find them. I was unable to detect any such changes; but as the examination was necessarily somewhat imperfect, I cannot say certainly, in this case, that they did not really occur. It was remarked just before and after death, that there was a peculiar pallor of the mucous membrane of the mouth. The relative disproportion between the pulse and respiration is accounted for by a disordered condition of the pulmonary air-cells, known in stable language as “broken-winded,” which was the case to a certain extent in both these animals.

Present—Dr Fayrer, Professor Partridge, and Mr Sceva.

EXPERIMENT No. 1.—26th Sept. 1868.—At 12, a daboia, two-thirds grown, was bitten in three places in the thoracic region, from a foot to six inches from the head, by a full-grown, fresh, and vigorous cobra. There could be no doubt that this snake was well bitten; the cobra embedded his fangs viciously, and kept his hold for some time. There were blood-marks after each bite. 12.55.—No effect. 2.2 P.M.—No effect. 5.—The daboia is apparently unaffected. 27th Sept., 10 A.M.—No change. 28th, 2 P.M.—No change. 30th.—No change. 2d Oct.—Still alive and well.

EXPERIMENT No. 2.—A full-grown cobra was bitten by another full-grown, fresh, and vigorous cobra in the body in two places, about six inches from the head, and also in the mouth. They both bit each other freely in this situation—blood was drawn by the bites—at 12 o'clock. 12.55.—No effect. 2.2 P.M.—No effect. 5.—Both perfectly well. 27th Sept., 10 A.M.—No change. 28th, 2 P.M.—No change. 30th, noon.—No change. 2d Oct., noon.—No change.

EXPERIMENT No. 3.—A large black cobra was bitten about 12 o'clock in the body in two places, a foot and six inches from the head, and also on the head, by a large and vicious daboia; blood was slightly drawn. There could be no doubt that the fangs had penetrated, or that the poison was inoculated. 12.55.—No effect. 2.2 P.M.—No effect. 5.—No effect. 27th Sept., 10 A.M.—No change. 28th, 2 P.M.—No change. 30th, noon.—No change. 2d Oct., noon.—No change.

EXPERIMENT No. 4.—A fowl was bitten in the thigh by a daboia at 12.15. It was convulsed immediately, and quite dead at 12.16.40. Dead in 100 seconds. The blood coagulated after death.

EXPERIMENT No. 5.—A hypodermic syringe filled with about 30 drops of the blood, taken from the above fowl immediately after death, was injected into the thigh of another fowl at 12.20. It walked about; was soon rather lame in the injected leg; gradually became sluggish; drooped; could walk if roused, but remained quietly crouching. It gradually drooped, and died at 4.10 P.M.

EXPERIMENT No. 6.—Mr Sceva injected the blood of the fowl (Experiment No. 5) into another fowl's thigh at 4 P.M., 26th September. 27th, 10 A.M.—Fowl still alive. 28th, 2 P.M.—The fowl is alive and apparently well, excepting slight lameness in the injected leg. 30th, noon.—It is still alive. There has evidently been no effect produced. 2d Oct.—The fowl recovered.

EXPERIMENT No. 7.—A fowl was bitten by a large cobra in the thigh at 12.19.5, and fell into convulsions immediately, and was dead in 50 seconds. Blood coagulated after death.

EXPERIMENT No. 8.—A hypodermic syringe of the blood of the fowl bitten by the cobra in Experiment No. 7, taken from the heart, was injected into a fowl's thigh at 12.29. 12.32.—Sluggish; lame in punctured leg. 12.47.—Walks about, but is drowsy. 1.24 P.M.—In much the same sluggish state; another syringe of the serum that had separated in the clotting of the same blood (that of No. 7) was again injected into the fowl's thigh. 1.52.—Lying down, resting its beak on the ground; very drowsy and sluggish. 2.2.—Cannot be roused. Died shortly after, at 3.16 P.M.

EXPERIMENT No. 9.—A fowl bitten in the thigh at 12.36 by the daboia that had bitten the cobra. It walked about immediately after with slight muscular twitching. 12.36,45.—Standing with the lame leg drawn up. 12.40.—Pecking at food. Walks, but staggers slightly. 12.41.—Bitten again in the thigh by the same snake, which is evidently much exhausted. 12.43.—No very apparent effect. 12.43,33.—Fell over in convulsions. 12.44,15.—Dead.

This experiment shows that the snake was much exhausted by previous biting.

EXPERIMENT No. 10.—A fowl was placed near a fresh daboia,¹ free on the ground. The snake, on being irritated, struck the fowl somewhere about the neck at 12.49. It fell into convulsions immediately, and was dead at 12.49,45—that is, it was completely dead in 45 seconds.

This experiment shows the terribly deadly nature of the daboia's poison.

EXPERIMENT No. 11.—A cobra was injected at 1 P.M. with fifteen drops of *his own* poison; the syringe was inserted about eight inches from the head. Ten minutes after there was no effect. At 5 P.M. the snake was still unaffected. *Sept. 27, 10 A.M.*—No effect. *Sept. 30, noon.*—No effect.

This experiment seems to show that the cobra is not poisoned by his own venom. *Oct. 2.*—Seems sluggish; but, after so long an interval, it may be from other causes.

EXPERIMENT No. 12.—Five drops of cobra poison, diluted with about ten drops of water, were injected with the hypodermic syringe into the inner side of a cat's thigh at 1.7,45 P.M. At 1.12 restless; muscular twitchings; mewing loudly. 1.13.—Partially paralyzed; dragging the punctured leg; breathing very much hurried. As the cat crouches on the ground the hind-quarters fall over as though paralyzed. 1.14.—Tries to walk; drags the hind-leg. 1.56.—Sluggish; apparently in no pain; does not move, even when roused.

[*Mr Sceva reports after this.*]

2.20.—Lying on its side, with hind-leg extended; profuse flow of saliva from the mouth, and symptoms of nausea. Frequent evacuation of thin faecal matter. 2.30.—Raised the head and fore part of the body; dragging the hind-limbs for a short distance on

¹ The daboia is naturally very sluggish, and not aggressive, unless irritated, when it strikes with great rapidity and deadly precision.

Mr W. Blanford tells me of an instance where a daboia was carried home by a gentleman who thought he had got a young python. It did him no injury, and he only became aware of the danger he had escaped by the snake striking at and killing a dog that approached too near it.

the floor. 3.—Attempted to get up again, but was unable to do so. 3.5.—Died, slightly convulsed. The blood coagulated firmly after death. It was examined by Professor Partridge and myself, and no change from the normal structure could be made out. The corpuscles, red and white, were unchanged, excepting that some of the red ones were shrivelled.

The quantity of poison used was only five drops, and that was mixed with water. It was injected at 1.7,45 P.M.; the cat died at 3.5 P.M., rather less than two hours.

It is evident from this that the poison does not suffer by mixture with water.

EXPERIMENT No. 13.—A large cobra was injected at 1.33 P.M. with five drops of the solution of strychnia, gr. i. to 3i., near the head. It was convulsed and powerless at 1.36. At 1.40 muscular tetanic twitchings. 1.42.—Dead.

This experiment shows that a poison is rapidly effective in the snake when inoculated into the circulation.

EXPERIMENT No. 14.—A cobra was injected with about fifteen drops of the poison of another fresh and vigorous cobra at 1.43 P.M. The poison was carefully injected with the hypodermic syringe about eight inches from the head. The cobra inoculated was of the pale, yellowish-coloured variety, with a single ocellus on the hood. It was very active and vicious, the most so of any I have seen. It was sent to me a short time ago by the police authorities; having been captured after biting a native lad in a boat, who died, it is said, within an hour after being bitten. At 2.2 P.M., and 5 P.M., not affected; as vicious and active as ever. At 10 A.M. of Sept. 27, still unaffected. Sept. 30, noon.—Still unaffected. Oct. 2.—Still quite well.

(To be continued.)

Part Second.

REVIEWS.

Eleventh Annual Report of the General Board of Commissioners in Lunacy in Scotland.

THE Eleventh Annual Report of the General Board of Commissioners in Lunacy in Scotland is characterized by extreme care in its compilation, minute attention to detail, and careful study of its subject in all its bearings, whether in relation to the public or the patients.

The illustrative tables are exceedingly elaborate, and evidence the perfect system of registration adopted by the Board.

It is not our intention to enter upon a minute consideration of these statistics, but rather to discuss the deductions which the Commissioners in Lunacy have drawn from them.

The most important facts are, that the number of pauper lunatics in Scotch asylums increases year by year, and that the existing asylum accommodation is found to be insufficient. The Board most correctly attributes this sad result to the accumulation of hopelessly incurable cases; and the main object of the Report seems to be to offer suggestions, the adoption of which will tend to prevent the overgrowth of asylums, and provide accommodation which will bear less heavily upon the ratepayer.

The remedies proposed are primary and secondary:—First, the prevention of insanity; and second, if that fails, the adoption of the “cottage system.”

The primary or preventive plan is propounded in the following sentences:—

“Making very liberal allowance for the pauperizing effect of lunacy, and the consequent removal from the independent to the pauper class, we are thus forced to the conclusion that insanity is essentially a disease, not of the overstrained intellectual, but of the depraved bodily condition, which for the most part is dependent on insufficient or inappropriate food, irregular living, overcrowded dwellings, long-continued nursing, overwork, fever, or any similar cause of bodily debility. Hitherto our efforts have been mainly directed to the provision of asylums for the cure and care of the insane; but these efforts, however beneficial they may be in many respects, have, as we have seen, totally failed to arrest the increase of lunacy. That more successful results would be obtained from the rational education of the people, and from the introduction into schools of physiological instruction, may very reasonably be expected. The prevention of insanity is not only a far nobler aim than the provision of accommodation after the mischief has been done; but it is one which, there is reason to hope, would greatly contribute to sap the sources of pauperism.”

Putting aside the possibility of “sapping the sources” of pauperism, it can hardly be supposed that elementary instruction in “Physiology” and “Hygiene,” however beneficial generally, would enable the class from which pauper lunatics are derived to provide sufficient or appropriate food, spacious dwellings, reduce fever, or lessen the period of lactation.

The secondary is, we fear, the more feasible. We must provide for what we cannot prevent; and we fully agree with the General Board that much may be done to obviate the overgrowth of asylums by the more general adoption of the “cottage system.” But we are not prepared to admit that the arguments in its favour have been fairly laid before the public in this Report; and we fear

that criticism detrimental to asylum treatment has been unfairly employed in its support. There is too much of *coulour de rose* washed over the sketch of this so-called system; whereas in the treatment of the picture of asylum life there is no small degree of scumbling. In almost all the reports on the conditions of the various asylums there is a "damning with faint praise." A commendatory remark is immediately neutralized by something derogatory. From the general tone of the reports one unacquainted with the subject could not arrive at the conclusion that there was any marked difference between the general condition of private pauper asylums or the lunatic wards of poorhouses, and that of Royal and District asylums. They are very much lumped, and their relative conditions are by no means fairly laid before the public. The public asylum, in which every endeavour is made to alleviate the condition of its inmates, appears to be on the same level with the private asylum or lunatic wards. The ubiquitous "but" pervades alike the report of each. No one could complain of adverse criticism, were it not that the shortcomings in the condition of patients resident in private dwellings on the "cottage system" are cloaked over, and that naked statistics are brought to bear in its favour without due consideration of the causes which originate the apparently more satisfactory figures. For instance, the mortality amongst patients in private dwellings is stated to be less than amongst those resident in lunatic wards of poorhouses. This is undoubtedly true; but it must be borne in mind that no patient can be removed to a private dwelling unless certified as being in good bodily health: whereas many of the inmates of the lunatic wards of poorhouses are old, decrepit, and infirm, and are the accumulated chronic cases of many years. Whilst commenting on the relative mortality in poorhouses and private dwellings, the Commissioners remark that they can offer no explanation of the smaller mortality in the latter than in the former, but "conjecture that the manner of living in private dwellings, involving, as a rule, greater freedom and greater variety, and the respiration of an atmosphere less loaded with animal exhalations, more than counterbalances the advantages which better diet, better clothing, better bedding, better housing, and greater cleanliness might be supposed to convey." This statement reads very curiously, when compared with the passage in the Report already quoted, in which the very hygienic conditions, the absence of which is here so slightly alluded to, are the very ones which they animadvert upon as the great causating influences in the production of insanity. The remarks on page vi. of the Report, when taken alongside of those on page xxxv., are the best possible evidence of the way in which the whole question is begged. The conditions which are deprecated in the one page are almost advocated in the other. We would ask what probability is there of obtaining "greater freedom and greater variety, and the respiration of an atmosphere less loaded with animal

exhalations," in the house of a guardian who is obliged to take in two, three, or four pauper demented, in order either to eke out his own existence, or to keep his own name from off the pauper roll? Is a midden or a pigsty more likely to be found within the walls of a poorhouse? or do "better bedding" and "greater cleanliness" tend to increase animal exhalations? The statement of the Commissioners, as we understand them, would amount to this: that the causes which originate the disease may be usefully employed in alleviating it when it becomes chronic.

We must take exception to a very definite statement made in this Report, that "in many cases of chronic insanity there is really less necessity for constant supervision than in such diseases as consumption or dropsy." It is a thoroughly well-established fact, that amongst the insane the symptoms of organic disease are peculiarly latent, and that therefore they all the more require constant and continuous medical observation. In the dropsical or consumptive patient there is no disease of the nervous centres to mask the pathognomonic signs. In the insane there is. Therefore, they require the constant supervision of experienced medical men.

We must take stronger exception to the remark immediately following, in which the general character of the servants employed in the care of the insane is spoken of in a manner which, were these servants made generally acquainted with it, would tend materially to reduce them to the level on which the General Board would make the public believe that they at present stand. The Report says:—"To suppose that, by mere transference to the wards of an asylum, a ploughman, policeman, discharged butler, old soldier, or mechanic or artisan out of work, is to become a devoted attendant on the insane, is to expect impossibilities." Is there anything so degrading in any of the above-named employments as to give the General Board any reason to believe that such people may not develop into good attendants under discipline and supervision? Have they not been derived from the very class to whose untutored and uncontrolled care they would consign those beings who are least able to complain, and whose very physical inability to complain seems, in other passages of the Report, to give reason to the Board for the belief that there is no cause for complaint? If the individual who is thus so slightly spoken of is not to be trusted when controlled by discipline and experienced supervision, how much more is his father, or brother, or cousin, to be doubted and supervised when he becomes the unsupervised guardian of the chronic lunatic in his own dwelling? Does the sanction of the Lunacy Board impart with it a higher *morale*, and convey to the honoured recipient thereof all the refined qualities of a Sister of Mercy? On the other hand, does the transference to an asylum of the same individual as an attendant detract from the development of the kindlier and softer feelings? From personal observation and experience we can speak most definitely to the development of them;

and, although we acknowledge that attendants on the insane fall far short of what we could wish them to be, yet we can assert that there is no fear that they fall short of *the hypothetical* "kindness and humane treatment which, in the cottage of the ploughman or the dwelling of the artisan, are extended to the sufferers from consumption, paralysis, or blindness." The animadversion is uncalled for, unkind, inexpedient, and prejudicial.

The Report lays great stress upon the fact, that a very much larger proportion of unrecovered private lunatics is removed from asylums than unrecovered paupers, and on the self-evident proposition that the temptation is greater to the poor than to the rich to allow their insane relatives to remain inmates of an asylum after all hope of their recovery has been abandoned. They seem to be of opinion, that where the case of a lunatic becomes hopeless, he should be thrown upon his friends. How far it would be expedient for the public weal so to do is very open to doubt; for it is probable that, were the poor labourer or artisan so burdened, he might himself become a pauper, and so only increase the evil sought to be relieved.

In the opinion of the Commissioners, the chief fault in the gradual accumulation of hopeless cases in asylums seems to lie with the medical superintendents.

"Hitherto the usual practice has been either to foster the overcrowding by the reception of new applicants, or to maintain a proper relation between the accommodation and the inmates by refusing new patients until the inevitable extension of the asylum takes place." But the real cause why unrecovered pauper lunatics are not more frequently discharged is, that medical superintendents have well-grounded reasons for believing that lunatics resident in private dwellings on the so-called "cottage system," are not adequately provided for or supervised. Nor are they aware that any saving to the ratepayer is effected which would compensate for the deterioration in the condition of the patient. In district and royal asylums, the rate of board ranges from £20 to £24 per annum. In a private dwelling, the guardian receives 6s. per week for a male patient—this amounts to £15, 12s. a year. Adding to this £2 for clothing, and £1 for such contingencies as medical attendance, inspector's travelling expenses, etc., the actual outlay does not fall far short of the rate of maintenance in an asylum. The Commissioners admit that in private dwellings neither the diet, clothing, bedding, housing, nor cleanliness, is equal to that provided in asylums; so that it is very evident that the meagre balance in favour of the ratepayer is obtained to the detriment of the hopeless lunatic.

It seems to have been expected by the Commissioners that the clause in the last amended Act which caused the Sheriff's order to cease and determine on the 1st of January three years after being granted would have necessitated the dismissal of a certain number

of patients consequent upon the non-granting of the certificate by the medical superintendent, that further detention was necessary for the good of the patient or the public. This feeble piece of legislation is admitted to be an utter failure, as it has failed to procure the discharge of a single patient. How it could ever have been expected to be otherwise, it is impossible to understand. Is it likely that a medical superintendent is more apt to stultify himself during the last fortnight of December than in any other period of the year? Supposing a new light was to have dawned upon any one of them or on all of them between the 15th and 31st December 1868, revealing the fact that one-half of their patients did not require detention, and, consequently, that they had failed to grant the requisite certificate, what possible provision could the Commissioners in Lunacy or any one else have made for them? If this clause of the Act had worked to the extent to which the General Board seem to have expected that it would, the result would have been ludicrous were it not for the sufferings which would have resulted to the lunatic.

But it has failed. And as a plan more likely to prove efficacious it is proposed that district boards should be "empowered to require the removal of patients after a certain period of treatment on obtaining certificates from any two medical men approved of by the General Board that they were incurable and not likely to prove dangerous either to themselves or to the public." It would be worth while to inquire how any two such medical men approved of by the Board could arrive at any such conclusion unaided by the medical officers of the asylum. All the unaided evidence they could gather would be limited, and in many cases deceptive; and we suspect that it would be difficult to find any two medical men who would be willing to undertake such an ungracious and unprofessional task. Why should not the Medical Commissioners in Lunacy themselves undertake the duty and responsibility? They are well versed in the subject of insanity, are more or less acquainted with the individual patients, and can claim any information from the medical officers which they may desire. This appears to us a reasonable solution of the difficulty.

There are two circumstances which should be generally known as bearing on this question of "fostering." The first is, that a large number of the incurable demented who are sent to asylums are sent at the instance of the Lunacy Board; the second, that more than one superintendent has done his best to obtain removal of harmless lunatics from his asylum, and has failed in consequence of the absence of support from the General Board.

As has been already said, the real cause of the accumulation of incurable lunatics is, that no adequate provision exists for them beyond the walls of an asylum, so that medical superintendents have no alternative but to detain them. We are fully at one with the General Board, that the overgrowth of asylums would be a

national evil, and that strong measures should be adopted to obviate it. And, further, we agree, that in the "cottage system" lies the remedy. But it must be reduced to a system. Proper supervision must be established in some degree approaching to that of an asylum. A yearly visit by a Commissioner in Lunacy, a quarterly visit from the parochial surgeon, and an occasional one from the inspector of poor, do not meet the requirements of the case. Proper cleanliness, proper diet, proper bedding, proper housing, and proper medical care are requisite for the chronic dement; and until the medical officers of asylums are assured that such will be provided, they cannot be blamed if they evince reluctance at being the instruments of placing their patients in a position likely to be detrimental to their mental and physical health. It consists with our knowledge, that at present pauper lunatics in private dwellings do deteriorate from the condition they were in when resident in an asylum. Were all the requisite steps taken to prevent this, we are of opinion that the rate of maintenance would be quite equal to that of patients resident in asylums. The only saving that would result would be in asylum buildings. The "inevitable addition" would not be necessary every five or ten years. On the other hand, it must be taken into account, that if only recent, dangerous, and helpless cases are to be detained in asylums, a materially increased expenditure in their management will be necessary. It cuts both ways, and we fear the incision must be made into the pocket of the ratepayer.

There are many other points of interest in this Report which could be alluded to, were not our space already more than fully occupied. What has been considered, however, is its leading principle and main object. Whilst agreeing with this object, we must object to the tone of the arguments by which it is supported, and express regret that the *pros* and *cons* are not more fully laid before the public.

Pharmacopœia of India, prepared under the Authority of Her Majesty's Secretary of State for India in Council. By EDWARD JOHN WARING, M.D., etc. Assisted by a Committee appointed for the purpose. India Office: 1868. 8vo, pp. 502.

IN preparing the Pharmacopœia of India, Dr Waring and the committee that assisted him in the labour and share with him the responsibility of the undertaking, had certainly a difficult task to perform, and one demanding the most cautious and discriminating judgment. They had, on the one side, to consider a country possessing a rich store of indigenous products, many of which are of established value as medicinal agents, while a large remainder have not as yet obtained undoubtedly defined positions as remedies; and, on the other side, they had to consider a profession trained to

the employment, and prejudiced in the value, of the articles contained in the British Pharmacopœia, and, accordingly, with few exceptions, imperfectly acquainted with the rich resources of India, but through the efforts of whose members alone the desirable object could be attained of efficiently economizing these resources. Their task was therefore conceived by them to be the somewhat exceptional one of producing a Pharmacopœia which combines the purposes of supplying "one uniform standard and guide whereby the nature and composition of substances to be used in medicine may be ascertained and determined," and, at the same time, affording information regarding the actions of these substances, in order that the profession may be educated in their therapeutic uses.

With these objects in view, the Committee have produced a Pharmacopœia based on that of Britain. The *official articles* consist of all the drugs that are official in the British Pharmacopœia, "together with those indigenous products of India whose claims are established on a solid basis;" and the *non-official* include a large number of substances "whose reputation is not so well established, but which, possessing considerable activity, are deemed worthy of attention."

After a careful examination of the statements regarding those *official articles* that are not contained in the British Pharmacopœia, we feel ourselves justified in commending the wise discretion of the Committee, and in congratulating our professional brethren in India on the valuable results of their investigations. To the labours of the Indian Medical Department, effected under many disadvantageous and discouraging circumstances, we are indebted for the substantial addition of forty new substances to our list of established remedies. We trust that these labours will be continued, and that the reputed value of the numerous *non-official* articles will be examined with a like care, and their actions clearly and accurately defined.

The descriptions of the *non-official articles* that are given throughout the work, and in the interesting notes of the appendix, lead us to cordially support the Committee in their efforts to encourage further investigation of the therapeutic uses of these articles. Among them we observe *Butea frondosa* and *Mangifera Indica*, whose seeds are asserted to have anthelmintic properties analogous to those of *santonica*; *Holarrhena antidysenterica*, which has obtained great repute as a remedy in dysentery, and which has likewise been extensively employed as an antiperiodic; *Nardostachys Jatamansi*, an esteemed antispasmodic, supposed to be the *Nardus Indicus*, or spikenard of the ancients, and recommended, on the high authority of Sir W. O'Shaughnessy, as a perfect substitute for valerian; *Santalum album*, the source of sandal-wood oil, which Dr T. B. Henderson of Glasgow believes to be equal, or even superior, to copaiva or cubebs as a remedy in gonorrhœa; *Urginea Indica*, or Indian squill, a diuretic of undoubted value; *Scopolia lurida*, prob-

ably an efficient substitute for belladonna, hyoscyamus, or stramonium, in confirmation of whose reputed mydriatic action Professor Christison has recently published some interesting observations; and many other substances whose further investigation promises to effect the most important additions to the already valuable list of the officinal indigenous articles.

To facilitate reference, an extremely useful catalogue of the products derived from the organic kingdom has been appended to the work. These products are classified in accordance with their therapeutic virtues, the officinal being separated from the non-officinal, and the analogues of each in the British Pharmacopœia indicated. We learn from this catalogue that a class of substances is included in the Pharmacopœia of India, which, we believe, is unrepresented in that of every other country, viz., "antidotes to snake-bites." Where deaths from snake-bites are of frequent occurrence, this class of remedies must of necessity be regarded as one deserving serious attention. Fourteen non-officinal vegetable antidotes are mentioned, but the editor explains that only one, *Aristolochia Indica*, is worthy of notice, while even in reputed efficiency this substance occupies a subordinate place to *liquor ammonie*.

Notwithstanding that it is claimed by the Committee that this Pharmacopœia is based upon that of Britain, we must confess that we consider the one work to be in many important respects very different from the other. The Pharmacopœia of India certainly resembles that of Britain, in so far that it adopts the same standards of weights and measures, and the same systems of chemical notation; that it includes among its numerous officinal substances all the drugs contained in the latter; and that it likewise supplies information regarding the doses of medicines. In almost every other respect, and certainly in nearly every important character that is generally supposed to distinguish a pharmacopœia from an ordinary text-book, that of India differs from its ostensible basis. The framers of the British Pharmacopœia have admirably defined the object of such a work to be the affording "to the members of the medical profession, and those engaged in the preparation of medicines throughout the British Empire, one uniform standard and guide, whereby the nature and composition of substances to be used in medicine may be ascertained and determined;" and, entertaining this conception of the purposes to be served, they have produced a work in accordance with it. The framers of the Pharmacopœia of India, however, have apparently considered that the education of the profession in the therapeutic uses of medicinal substances is at least as important a purpose as the ensuring of a number of remedies of uniform and definite strength and composition; and, accordingly, they have attempted so to model their work as to attain both purposes. The plan of arrangement in the British Pharmacopœia is a simple alphabetical one; that in the Indian Pharmacopœia is a complicated one, in which the articles are

subdivided into the Vegetable *Materia Medica*, the Products of Fermentation and Distillation, the Animal, and the Inorganic *Materia Medica*. The Vegetable *Materia Medica* is arranged according to the botanical characters of its contents, the Products of Fermentation and Distillation are somewhat promiscuously grouped together, the Animal *Materia Medica* is subdivided into families and species, and the Inorganic is classified on a purely chemical basis. Further, the preparations are described immediately after the properties and uses of each article. The arrangement is founded on the physical and chemical properties of the substances contained in the *Materia Medica*; but thereby the essentially pharmaceutical purposes which it has hitherto been supposed a Pharmacopœia is mainly designed to serve, are ignored.

This unusual conception of the purpose of a Pharmacopœia is even more prominently exhibited in the extraordinary innovation of supplying under each article more or less detailed information regarding its therapeutic actions and uses. We are at a loss to know in what manner this innovation should be characterized, or what justification can be advanced for its introduction into an official Pharmacopœia. Is this information sanctioned by the high authority of Her Majesty's Secretary of State for India? If so, and presumably the answer must be an affirmative one, have our professional brethren in India so far lost confidence in their powers of judgment as to require the guidance of so high a functionary? We have carefully examined the greater part of the information thus authoritatively supplied, but, alas! we cannot avoid cautioning those for whom it is furnished to avoid placing too implicit confidence in rulers. In a work that is otherwise worthy of the highest praise, these therapeutic observations everywhere occur to blot and mar the meritorious labours of the Committee. They are altogether insufficient to serve as guides to practice, or to educate the student of medicine. With but few exceptions, they consist of a mere string of terms, whose use may, unfortunately, be consecrated by tradition, but whose tendency is undoubtedly to perpetuate the errors of therapeutics, and to increase its disrepute. Influenced by a novel, and we humbly submit an erroneous conception of the purpose of a Pharmacopœia, Dr Waring and his colleagues have succeeded in subordinating therapeutics to *materia medica* in this Indian codex, for they have merely included certain imperfect statements regarding the actions and uses of various official and non-official articles among their other properties. Information on these subjects is certainly useful and acceptable, and it is peculiarly so respecting such substances as are comparatively unknown to Europeans, but there is no proper reason why it should be included in the official part of the work. A separate publication by Dr Waring on these matters, or even a supplemental appendix treating of them, such as appeared in the French *Codex Medicamentarius* of 1837, would be cordially welcomed; and by the adoption of either plan,

the absurdity of a promulgation of therapeutic statements authorized by Her Majesty's Secretary of State for India would be avoided.

The interesting and able notes contained in the Appendix induce us to hope that Dr Waring may yet prepare a therapeutic commentary on the Pharmacopœia of India, which will more worthily represent the extensive and accurate knowledge he assuredly possesses. If this be done, the production of imperfect and useless therapeutic statements will be rendered unnecessary in future editions of this otherwise admirable work.

On Neurotic Cutaneous Diseases, including Erythema. By HENRY SAMUEL PURDON, M.D. London: H. K. Lewis: 1869.

FROM the title of this brochure, we were led to expect that the author had taken up, and attempted to resolve, some of those difficult problems which have so long obscured the pathological part which the nerves play in affections of the skin. But in this we have been mistaken. There is nothing very startling or very novel in the pamphlet whatever. The author gives a fair summary of the views of other people as to the secondary part which the nerves play, and surmises as to the cause of certain neurotic complications in the few skin affections which he treats of. But as to any original research, or any attempt at an experimental demonstration of the theories which he advocates, this we look for in vain. So that this production helps on but little the difficult study of the neuroses of the skin, and in no way advances our knowledge as to their etiology.

Under the term neurotic cutaneous diseases, the author includes several affections which cannot be classed as true neuroses, as, for example, urticaria, herpes, pemphigus. In these the neurotic element is no doubt very important; but this action no recent writer on cutaneous disorders, so far as we are aware, has ever denied or ignored. And as to the credit which the author feels disposed to claim for himself as being the first to point out, that "hitherto erythema has not been looked on as a cutaneous neuroses" (*sic*), and which he is desirous of ascribing to vasomotor spasm, he is very welcome to what he can make out of it. But why this should be regarded as sufficient warrant to remove this affection from that class to which it is usually referred by authors, we cannot exactly see.

The style in which this pamphlet is written is reprehensibly careless. Thus, definite terms are used indiscriminately to designate at one time the whole tissue referred to, at another merely a part of it, which, to say the least of it, is unscientific and confusing. Then, why does the author constantly speak of Dubois-Reymond,

Heidenhaim? Surely foreign gentlemen are quite as entitled to have their names properly spelled as Englishmen. And what excuse can be offered for the publication of such terms as *Herpes ophthalmicus*, *Zoster pectoralis*, *Pompholyx benignus*, *Pompholyx diuturnus*? What can be made of the following reference to the title of a book on skin diseases:—"Die Hautkrankheiten durch Anatomische Veränderungen erläutert. Berlin, 1857"?

As to the prescriptions which are given, the less said of them the better; and in saying this, we do not refer so much to the ingredients as to the Latinity in which they are expressed. Take for example the following:—

"R Lapis calaminaris, ʒj.
Balsam, Peruviani, ʒss.
Adeps, . . . ʒj. M."

By some kind hand this has been partially corrected in the copy we have before us, and for *Adeps* we now read *Adipis*. Again, we find—

"R Ungt. flores sambuci, ʒj.
Liq. plumbi, . . . ʒj. M.
R Liniment aconitii, . ʒij.
Acid carbolici, . gr. iv.
Collodium flexile, . ʒss. M."

Sig.—To be applied with a camel's-hair brush."

How any man with the smallest pretension to any education could have the audacity to send forth, in what sets up for a didactic treatise, such glaringly gross transgressions against all the rules of grammar, is only equalled by the wonder as to what could be the motive which induced him to publish at all.

OBSTETRICAL SOCIETY'S PROCEEDINGS.

ERRATA.—The following corrections are requested to be made in the Report of the Society's Proceedings in our last number:—At p. 170, twelfth line from foot, for "All intra-peritoneal tumours must be opened by the vagina," read "All intra-peritoneal retro-uterine tumours ought to be opened by the vagina;" and, tenth line from foot of page, for "Dr Duncan had mentioned two cases in his work on the subject, which were the only cases which had been opened in this country," read "Dr Duncan had mentioned two cases in which he had made the opening through the abdomen, the only two of the kind he knew of in this country."

Part Third.

PERISCOPE.

MEDICINE.

ON THE EMPLOYMENT OF OIL OF TURPENTINE IN PARASITIC SKIN DISEASES.

BY DR KARL VON ERLACH.

THE author is inclined to deny that any difference exists between *area Celsi* (*alopecia areata*) and *herpes tonsurans*. As, however, out of a skin practice of from 200 to 220 patients annually, exclusive of scabies, and extending over fifteen years, our author has only had occasion to observe seven cases of disease of the hairy scalp, perhaps his opinion is not very valuable. In four of these cases no spores nor any other trace of a vegetable parasite were found. In one, and probably in two cases, the existence of the trichophyton tonsurans was distinctly ascertained. In the seventh case the hair was found covered with a network of (mycelium) fibres, which resisted the action of liquor potassæ, continued long enough to dissolve the hair itself, but to which the author gives no name. In regard to the treatment of these parasitic diseases, the author very properly directs attention to Küchenmeister's views in regard to the influence of alcohol upon the development of parasitic plants, pointing out that, however sufficient it may be in the case of such superficial vegetation as pityriasis versicolor, etc., it is perfectly useless for such as infiltrate the scalp and hair follicles; and he congratulates himself on having discovered a most effectual remedy for such cases in the oil of turpentine. The two cases referred to in which the parasite was discovered were thus treated—one of them ceased to be seen after the first application, the other had the affected parts and some distance around them painted twice a day with oil of turpentine, and was cured in fifty days. The author has since then, on several occasions, treated herpes tonsurans and also favus after the same fashion, but is unable to give any positive results in these cases.—*Berliner Klinische Wochenschrift*, Nov. 1868.

[Ringworm of the scalp, the result of the vegetation of the trichophyton tonsurans, is a most capricious disease, and one in regard to which the influence of remedies must be drawn from the severest and not from the most readily-cured cases. Sometimes from off the top of the shield-like elevation of the scalp, at others from a more level portion of the scalp, a lock of hair affected with the trichophyton falls off, and the plague is stayed, and revealed only by its cure. At others, with or without treatment of the most various kinds, even under the continuous application of oil, and the occasional cauterization with iodine, it persists for periods varying from a few weeks to many months, and then suddenly, without any apparent change either in patient or treatment, the disease ceases to spread, and healthy hair takes the place of the diseased and broken stumps. This very uncertain and capricious behaviour has been the cause of the undue and undeserved appreciation of many remedies, both legitimate and quack; of these turpentine is one. This remedy has been long in use in India as a remedy for the skin ringworm there (*herpes tonsurans*), the most approved formula being the following:—

℞ Camphoræ 3ss.
Spt. rectificati,
Ol. terebinthinæ, āā ʒi.
Hydrarg. oxymur. gr. vi. M.

Sig. To be applied frequently during the day, well rubbed-in over the spots with a piece of flannel.

This, which ought to be a much more effectual parasiticide than plain oil of

turpentine painted over the parts only twice a day, is, we can assure our readers, of no avail in obstinate cases of ringworm of the scalp (*trichophyton tonsurans*). The method so strongly recommended by Mr Carter of the London district schools, Hanwell, of saturating the scalp with a solution of iodine in oil of tar, is very dirty, and not more efficacious than the treatment by iodine alone, or in combination with greasy applications, also a filthy mode. Epilation, recommended by McCall Anderson, may be effectual; it is, however, too troublesome to be, as a rule, sufficiently carried out. Even in hospital we have only once succeeded in getting a head properly epilated, in private practice never. The operator in the only efficiently epilated head was a hair-dresser, who did it *con amore*, and, in combination with carbolic acid, it cured a case of favus of some years' standing, the boy being one of those few of such cases who can now exhibit a good head of hair. What, however, we have found perfectly effectual in all cases of favus and of ringworm, even the most obstinate, and therefore to be employed in all—because we do not know what cases will turn out obstinate—is the chromic acid in solution, one drachm to the ounce of water. The head should be shaved and cleared of all crusts, and then well painted all over with the solution. In hospital practice it is better to rub the solution well in at once, to allow it to remain on for an hour or so, and then, when it begins to get painful, to wash off the superfluous acid with cold water. In private practice it is better to paint the head all over once every night till a sufficient amount of reaction has been procured. This is evinced by some degree of inflammatory infiltration of the scalp, and occasionally by slight suppuration at various points. This shows that the acid has penetrated down to the living cutis, destroying all before it, both dead epithelium cells and living spores infiltrated amongst them, or lying in the follicles. The irritation may then be soothed with a poultice, which also favours fresh cell-growth, or the head may be dressed with a solution of carbolic acid in lard, one drachm to the ounce. In our experience this has been the most effectual and the most easily applied remedy, both for favus and also for ringworm, and one that is certainly far superior to oil of turpentine.]

SURGERY.

CASE OF COMMENCING TRAUMATIC TETANUS, CURED BY THE USE OF BROMIDE OF POTASSIUM. BY DR BRUCHON.

WE merely give an abstract of this interesting case:—A workman had fallen into a tub of acidulated and boiling water,—he had severely scalded nearly the whole of his left leg and thigh. Other less severe scalds existed on the right leg, thigh, and flank. After applying carron-oil over the whole extent of the scalded surfaces, the limbs were enveloped in cotton wadding. It was afterwards seen that the scalds varied in severity, from the second to the fourth degree.

I gave him soothing potions, advised him to avoid chills; and for some days, though the pain was severe, all went well, and the burns were slowly healing.

About twelve days after the accident, I found him at my morning visit covered with a cold sweat, with oppressed breathing, and a rapid but weak pulse. He told me that during the night he had several times felt startings in his left heel, so severe as to make him cry out, and which extended up the foot and leg in the form of cramp, and made him spread his toes like a fan or a pigeon's tail. At the same time his jaws were firmly closed, and even during the intervals he could not open his mouth as before; in fact, he had trismus. On trying to explain this dangerous complication, I found that the patient slept in a room by himself, but left the door open at night, in order that his brother might hear him when he called. The nights were cold, and by the morning he had been chilled.

I advised him to keep his door shut, and gave him a powerful opiate. Two

days after, all the symptoms were aggravated, and the trismus so marked that the patient could not masticate.

I now was in difficulty as to treatment. Twice already, in similar cases, I had failed with opium and chloroform. I now determined, after a purge, to give bromide of potassium a trial. The purge produced no alteration of the tetanic symptoms, so next day I ordered that 60 grains of the bromide should be taken during the course of the day. This was followed by slight improvement, but on the third day the spasms again returned with even greater intensity than before. I added 15 grains to the daily dose every two days till it had reached 120 grains, after which the disease first became milder, and soon completely disappeared. While taking the salt, his complexion, always dull, became of a bistre hue. There was no cutaneous eruption. When, as he sometimes did, he swallowed his daily dose at once in the morning to get quit of it, its good effects were not so marked as when it was taken as directed in divided doses.—*Gazette des Hôpitaux*, No. 61, 1869.

INTESTINAL OBSTRUCTION FOR THIRTY-THREE DAYS—COLOTOMY—CURE.
BY DR THOMAS, OF TOURS.

On the 18th December 1868, I was sent for to visit M. F., in consultation with Drs Touchard and Mangeret. The patient, aged 43, was small, thin, and of a feeble constitution, and was in a very bad state. His abdomen presented a most extraordinary distention, which contrasted remarkably with the excessive thinness of the rest of the body. Coils of intestines more than double the natural size were seen in relief through the thin distended skin. The distention was uniform, but occasionally rapid alterations in shape occurred, as the contained gases shifted their position from place to place. The patient complained of most intense pain, at times so bad as to force him to cry out, when any special distention took place at any given point; when the distention was more uniform, the pain was less severe. The face was drawn and pinched, the pulse small and very feeble.

The history furnished by M. Touchard was as follows:—When five years of age he had dysentery. Since the age of fifteen he has frequently had colic, and been liable to constipation, but his general health was pretty good. Early in 1867, he had a bad attack of constipation, attended with colic, distention, and severe vomiting. After ten days he recovered and had copious evacuations. In July of 1867, he again had obstruction for fifteen days, with similar symptoms and a similar result. From this date the bowels became more regular, and the patient almost thought himself safe from a return of his complaint; when suddenly, in July 1868, he had a very severe attack, lasting for twelve days, after which the recovery was only partial, and not till two months after was he again in his usual health.

On the 15th November the bowels were acted upon for the last time, and up to the date of my first seeing him, 18th December, that is, for thirty-three days, there was complete obstruction. At first, the increase in size of the abdomen was very gradual, and the patient always hoped that, as before, the bowels would right themselves. After the 27th November, no flatus even escaped per anum, and then the distention of the abdomen became more rapid, and the colicky pains more severe. Various purgatives, including castor-oil and croton, and simple and purgative enemata, were given at different times, but all without effect. On 12th December Dr Millet was called in, who ordered new purgatives, and was convinced that without surgical assistance death was inevitable.

17th Dec.—Fæcal vomiting appeared, and the general condition became more and more alarming, and I was sent for. When I saw the patient, he was in the condition just described. Diagnosis and prognosis were easy: intestinal obstruction; imminent death. By an examination per rectum, I assured myself that the obstruction was not within reach. Neither the patient nor M. Touchard could give me any accurate account of the exact position of the first swelling

of the abdomen, but the latter was certain, from many careful examinations of the abdomen, that no appreciable tumour existed previous to the distention from obstruction. This and the absence of any hemorrhage from the bowels precluded the idea of cancer. The long intervals which existed between the previous similar attacks, during which everything went right, prevented us from admitting the idea of any organic disease of the intestines.

If, then, the existence of some obstruction was indubitable, the nature and seat of the obstruction were unknown. The absence of fever and tenderness showed that there was no peritonitis, and in consequence that the surgical interference, which was obviously required, might be attempted with a hope of success.

We had the choice of two operations, gastrotomy or enterotomy—the fewer dangers involved in the latter, in addition to the absence of information as to the seat and nature of the obstruction, made me give the preference to the latter.

The operation being agreed to, was at once performed, with the assistance of MM. Touchard and Mangeret. Chloroform was not given, in consequence of the difficulty of the respiration caused by the distention of the abdomen. I operated on the right side, and by M. Nelaton's method. After the escape of a little serum showed that the peritoneum was opened, I stitched the enormously distended cæcum (which presented itself at the wound) by six points of suture to the edges. On opening the cæcum, flatus and a considerable quantity of a thick homogeneous slate-coloured material escaped. M. Touchard, who subsequently attended the patient, estimated the quantity of this matter passed after the operation, and during the next two days, as between 15 and 20 pounds.

The patient was at once greatly relieved. I advised perfect repose, and to moderate the peristaltic movements of the intestines, and to favour adhesion of the lips of the wound, the use of a grain pill of the gummy extract of opium every two hours. The patient rested well during the ensuing night, and the evacuation continued so rapid, that next day the abdomen was only moderately distended, and not painful.

Everything went on well. Defecation was easily performed at the new opening. There was no fever, and the patient began to regain strength.

23d Dec.—To-day I removed some threads, and, finding the adhesions complete, resolved to explore the rectum. Having introduced the finger, I was agreeably surprised to find feces in the rectum, which had been completely empty before the operation. The permeability of the intestine was restored, an additional proof being afforded by the appearance at the wound of the fluid of an enema administered per rectum. I advised the use of frequent enemata, and the application of a pad on the wound.

10th January 1869.—I was again summoned to see M. F., and found him in severe pain. The belly was swollen, but not uniformly as before the operation; the distention was limited to the epigastrium and flanks, and was evidently due to a distended large intestine, which showed itself against the abdominal wall, at some parts as thick as a forearm. It was evident there was some obstruction in the sigmoid flexure of the colon, and the flat sound elicited by percussion showed that it was solid contents, not gaseous.

During occasional sudden colicky pains, occasioned by violent contractions of the intestinal wall, small portions of feces, with flatus, were driven through the artificial anus, but none per anum.

No obstruction could be felt either by the finger or by a sound in the rectum. I now abandoned the hope that the patient would recover completely, and went away with the conviction that there did exist some obstruction between the artificial and the real anus. I advised the use of enemata by the artificial anus to empty the large intestine, and with the hope that the cæcum might act as a rectum, and thus make the artificial anus not so disgusting and inconvenient as it sometimes is.

Fortunately for the patient, M. Touchard, my distinguished colleague, did

not so soon lose hope, and succeeded, by repeated enemata and the frequent use of an œsophageal tube as a catheter, in re-establishing the passage, and the amount coming by the artificial anus became gradually less, till it almost ceased.

4th March.—M. F. came to Tours to see me. His general health was excellent, and his strength and flesh had returned. He did not require lavements, and had two natural stools every day. The artificial anus was now merely a narrow fistula, which was so far closed by a protrusion of mucous membrane as to let nothing escape. M. F. wished me to close this. I have advised him to wait a short time in case of any future attack.—*Gazette des Hôpitaux*, No. 70, 1869.

TREATMENT OF POPLITEAL ANEURISM BY COMPRESSION, UNDER THE CARE OF
M. LEGUEST.

COMPRESSION has had many successes in the cure of aneurism. It often fails without our being able to discover the reason; yet the varied methods of using it, their different combinations, the varied order and duration of their use, seem every day to be extending the boundaries of its province. Among these means the flexion of the leg upon the thigh, as a method of treating popliteal aneurism, deserves great consideration. Already, hardly ten years old, it counts twenty-two successes out of forty-three cases in which it has been tried; and, doubtless, this success would have been greater had some of the surgeons who used it had more confidence in its powers, and more perseverance in its application. The case now to be shortly given is an example of the success of forced flexion applied with intermissions, succeeding in effecting a cure after various other methods of compression had failed.

The patient, æt. 50, had been 26 years in the navy, and suffered more than once from acute rheumatism. He had noticed the aneurism in his popliteal space only fifteen days before admission to hospital.

[The treatment is detailed at very great length and with very considerable tediousness; it is necessary only to give an abstract.]

Seven different plans of compression were tried.

1. Incomplete and intermittent digital compression of the femoral, for forty-four hours.

2. Forced permanent flexion of the leg on the thigh, three days.

3. Total permanent digital compression of femoral, twelve hours.

4. Direct compression by compresses and bandage, seven days.

5. Imperfect mechanical compression of femoral, twenty-four hours.

6. Digital compression, complete, of femoral, three hours.

7. Forced intermittent flexion of leg on thigh for an hour at a time every morning and every evening for five days. This effected a cure, but was continued as a measure of precaution for six days longer, for the same time.

While the other plans may have prepared the way for the good result, the cure is due to the last method, which may act either by its direct compression of the tumour itself, or by its checking the flow in the artery beyond the aneurism, as in Brasdor's method.—*Gazette des Hôpitaux*, No. 48, 1869.

Part Fourth.

MEDICAL NEWS.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

(Continued from page 191.)

MINUTES OF MEETING, Tuesday, July 6, 1869.

The minutes of last meeting were read and confirmed.

1. *Read*—An application, dated 11th June 1869, from the McGill University, for recognition of their degrees of that University, similar to that granted to the University of Melbourne by the General Medical Council during last session.

Moved by Mr Caesar Hawkins, seconded by Dr Sharpey, and agreed to:—“That the Principal and Vice-Chancellor, and the Dean of the Faculty of Medicine of the University of McGill College, be informed that they have not correctly understood the proceedings of the General Medical Council in its last session relative to the University of Melbourne; that the Council have no power under the Medical Act to place on the Register the Graduates in Medicine of any Foreign or Colonial University, not practising Medicine or Surgery in the United Kingdom before the passing of that Act, but that should such power be conferred on the Medical Council, the claims of the graduates of McGill University will receive due consideration.”

2. *Read*—A letter from the Parliamentary Committee of the British Medical Association, which was referred to the Committee on Amendments of the Medical Acts.

3. On the motion of Mr Caesar Hawkins, seconded by Dr Paget, it was agreed, “That Mr Ouvry be requested to examine the evidence on which Mr Lima Abraham La'Mert, Lic. Soc. Apoth. Lond., 1860, of 37 Bedford Square, London, W.C., had been deprived of his diploma by the Royal College of Surgeons of England, and of his license by the Royal College of Physicians of Edinburgh, in order to ascertain whether this Council will be authorized to erase his name from the Register under the 29th clause of the Medical Act.”

Moved by Dr Bennett, seconded by Dr Alexander Wood, and agreed to:—“That the standing orders of the Council, in reference to the removal of a name from the Register, be suspended, and that Mr Ouvry be at once consulted, with a view to ascertain whether the Council could not proceed to strike Mr Lima Abraham La'Mert's name from the Register during the present session of Council.”

4. *Read*—A letter from Dr Bulmer respecting Canadian degrees, which was referred to the Committee on the Amendment of the Medical Acts.

5. *Read*—A letter from Dr Forster respecting registration in the Channel Islands; also referred to the Committee on the Amendment of the Medical Acts.

6. A copy of the *Pharmacopœia Danica*, recently revised and republished, was presented to the Council by direction of the Danish Government, through His Excellency the Danish Minister in this country. A vote of thanks was passed to the Danish Government.

7. *Read*—A communication from the Royal College of Surgeons of Edinburgh.

Moved by Sir D. Corrigan, and seconded by Dr A. Smith:—"That the communication just read from the Royal College of Surgeons of Edinburgh be inserted in the minutes of Council."

The motion was negatived.

Dr Andrew Wood required that the names and number of those who voted for and against the motion, and of those who declined to vote, should be taken down.

Majority, 10—Dr Bennett, Dr Storrar, Dr Alexander Wood, Dr Fleming, Dr Macrobin, Dr Thomson, Dr Leet, Dr Sharpey, Dr Rumsey, and Dr Stokes.

Minority, 9—Mr Hawkins, Dr Embleton, Dr Andrew Wood, Dr A. Smith, Mr Hargrave, Dr Apjohn, Sir D. Corrigan, Bart., Dr Parkes, and Dr Christison.

Declined to vote, 3—The President, Mr Cooper, and Dr Paget.

8. *Read*—A letter from Dr Philip W. MacLagan, of Berwick-upon-Tweed, respecting Lunacy certificates, which, on the motion of Dr Andrew Wood, seconded by Dr Macrobin, was received and entered on the minutes:—

Berwick-upon-Tweed, June 25, 1869.

Sir,—May I request that when a suitable time presents itself you will bring the following subject before the General Council of Medical Education and Registration.

A few months ago, having a patient afflicted with insanity whom I wished to place under treatment in an asylum near Edinburgh, I filled up the usual certificate, the second certificate being written by a medical practitioner in Edinburgh who saw the patient *in transitu*.

A few days after, I learned, much to my surprise, from the superintendent of the asylum, that my certificate, on being presented to the sheriff (by whom, as you are aware, warrant for detention in an asylum is granted), was rejected, on the ground of my non-residence in Scotland; and on reference to the Board of Lunacy, this decision was confirmed. A third practitioner had, in consequence, to be called in to examine the patient, who, meanwhile, had been illegally detained for three days.

Within the last few weeks, a second instance has occurred to me. The friends of an insane gentleman were desirous to place him in the Royal Edinburgh Asylum at Morningside, and I was obliged to explain to them that neither I, nor any physician in this town, could fulfil the necessary conditions, and that either he must be taken into Scotland, or two Scottish practitioners brought here before the needful documents could be prepared.

I need not point out the extreme inconvenience of this state of the law. From the proximity of this town and the adjacent part of Northumberland to Edinburgh, the practitioners of the district have been hitherto almost universally in the habit of sending insane patients there; and, in fact, unless the existing regulations be of very recent date, many persons must, at this moment, be illegally confined in Scottish asylums by virtue of certificates granted by medical men resident in England.

But independently of considerations of mere convenience, this law seems perfectly inconsistent with that equality of privilege which the Medical Act was believed to confer. Registered practitioners who are daily exercising every branch of the profession on both sides of the Tweed—who hold Poor-Law and other public appointments, both in England and Scotland—who are called upon to give medical evidence in the law courts of both countries, and who of course have to give evidence *there* on questions of sanity or insanity, are yet, for some inscrutable reason, placed at a disadvantage on this single point.

As I observe from a notice in the *Lancet* that this matter is likely to engage the attention of the Council, I should not have continued to occupy your time by a mere personal statement, but that it may serve to show that the grievance is not fanciful or theoretical, but that—at least in the case of gentlemen prac-

tising in the *Borders*—it does exist and makes itself disagreeably felt.—I have the honour to be, Sir, your most obedient servant,

PHILIP W. MACLAGAN, M.D. & L.R.C.S.E.

Dr Hawkins, Registrar of the General Council.

Moved by Dr Andrew Wood, seconded by Dr Bennett, and agreed to :—
“That a communication be made to the Home Secretary in reference to the present state of the law regarding Lunacy certificates—that there be transmitted to him a copy of the letter drafted last session, as also the letter of Dr MacLagan: that previously to making this communication to Government, the President be requested to communicate on the subject with the English and Scottish Lunacy Commissioners.”

9. A communication from practitioners in Lanarkshire respecting the misconduct of a registered practitioner was submitted to the Council. The reporters having retired, the communication was read, and it was remitted to the Branch Council for Scotland to proceed in this case according to the standing orders of the Council.

Mr Hawkins then took the chair, at the request of the President.

A motion and amendment in regard to the Queen's University in Ireland were submitted, but the debate was adjourned.

MINUTES OF MEETING, *Wednesday, July 7, 1869.*

The minutes of last meeting were read and confirmed.

1. The President informed the Council that Mr Ouvry, as directed at the last meeting, had been consulted, and had advised that the Council could not, by any suspension of its standing orders, proceed with Mr Lima Abraham La'Mert's case during its present session.

2. Dr Alexander Wood put the following question to the President :—
“That, as it appears that a question regarding the General Medical Council had been put last night to the Home Secretary, in the House of Commons, by Sir John Gray, and replied to by the Right Honourable Mr Bruce, it is desirable that this Council be informed whether the Home Secretary had applied to the President or to any of the officials of this Council for information, before replying to the question?”

The President replied, that he had not received any communication from the Home Secretary, or from any other member of her Majesty's Government, since he received the letter from the Privy Council, which was laid before this Council on the first day of the session, and was read by the Registrar.

3. The adjourned consideration was resumed of the motion by Dr Parkes, seconded by Dr Embleton, viz. :—“That the Registrar be requested to write to the Secretary of the Queen's University in Ireland, asking for the Report of the Committee of the Queen's University, to which the Report of the Committee of the Medical Council on the Visitation of Examinations was referred, and if the reply be, that the Committee has not reported, that the Registrar be instructed to write and inquire for a definite reply to the passage in the Report of the Committee on the Visitation of Examinations which referred to the preliminary examination of the Queen's University;” and the amendment, moved by Dr Storrar, and seconded by Dr Bennett, viz. :—“That this Council having issued recommendations to the bodies enumerated in Schedule (A) of the Medical Act, viz., ‘that no medical student shall be registered until he has passed a preliminary examination, as required by the General Medical Council,’ and ‘that no license be obtained at an earlier period than after the expiration of forty-eight months subsequent to the registration of the candidate as a medical student;’ and this Council having learnt that the regulations and practice of the Queen's University of Ireland are not in accordance with these recommendations, the Council request the attention of the Queen's University to

this want of accordance, and express the hope that before the next annual meeting of the Council, the University may be able to announce to them that their regulations and practice are in conformity with the aforesaid recommendations, and thereby avoid the necessity of a representation being made by the Council on this subject to Her Majesty's Most Honourable Privy Council, under the 20th section of the Medical Act."

The amendment was negatived.

Sir D. Corrigan required that the names and number of those who voted for and against the amendment, and of those who declined to vote, should be taken down.

Majority, 14—Mr Hawkins, Mr Cooper, Dr Acland, Dr Embleton, Dr Fleming, Dr Macrobain, Dr Thomson, Dr A. Smith, Dr Leet, Dr Appjohn, Sir D. Corrigan, Bart., Dr Parkes, Dr Rumsey, and Dr Stokes.

Minority, 5—Dr Bennett, Dr Paget, Dr Storrar, Dr Alexander Wood, and Mr Hargrave.

Declined to vote, 5—The President, Dr Andrew Wood, Dr Sharpey, Dr Quain, and Dr Christison.

The motion was then put, and agreed to, *nem. con.*

4. A deputation was received, consisting of the following gentlemen:—Thomas Bell Elcock Fletcher, M.D., F.R.C.P. Lond.; Joseph Sampson Gamgee, M.R.C.S. Eng.; Arthur Oakes, M.R.C.S. Eng., L.R.C.P. Edin.; and David Charles Lloyd Owen, M.R.C.S. Eng., L.S.A. Lond., *Secretary*.

The deputation presented a memorial.

Moved by Dr Paget, seconded by Mr Hargrave, and agreed to:—"That this memorial, stated by the deputation to have been signed by 5200 members of the medical profession, be entered on the minutes, and that it be referred to the Committee on the Amendment of the Medical Acts."

MEMORIAL.

The undersigned members of the Medical Profession respectfully submit to the General Council of Medical Education and Registration of the United Kingdom, the necessity of obtaining an Act of Parliament to amend the Medical Act of 1858, and the Acts subsequently passed with a view to amend it.

The Act of 1858 affirms that "it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." The experience of the past ten years has proved that the Act is practically inoperative as a guide to the public in distinguishing legally qualified members of the medical profession. A large number of men are practising medicine and surgery in different parts of the country, not only without any legal qualification, but without having undergone any regular course of medical education. In some places men are practising under fictitious names, assuming the title of Doctor, and obtaining considerable sums of money from weak persons, by intimidation and extortion. The Medical Act of 1858 is practically inoperative in restraining these offenders.

It is capable of proof that some legally qualified men have lent their names to persons without qualification, to enable them to practise medicine and surgery without incurring liability to prosecution. Such a proceeding is regarded as a fraud on the public and the profession; and it is suggested that in any future Bill greater powers be given to the General Medical Council to remove from the Register, and deprive of their professional rights, qualified men who shall aid and abet illegal practitioners.

The present state of the law touching certificates of death greatly favours the successful practice of secret poisoning and infanticide. It is suggested that the certificate of a legally qualified member of the medical profession, in the absence of a coroner's order, shall be indispensable as a preliminary to every burial.

The Medical Act of 1858 purports to constitute the General Medical Council for the purpose of regulating Medical Education and Registration throughout the United Kingdom; but composed as the Council is, mainly of the members of the medical corporations who grant licenses to practise, the control of the system of medical education has proved to be very imperfect.

The undersigned are of opinion that the system of medical education should be revised, so as to insure the possession of a thoroughly scientific and practical acquaintance with Medicine and Surgery on the part of persons applying for the legal qualification.

To this end, it is held to be necessary to substitute for the present system of examination, and for the many forms of license to practise now granted, one high and uniform standard of examination, and one legal qualification.

The practical part of the course of professional study stands in special need of improvement, and the undersigned would gladly see the regulations made stringent, to insure the attendance of students on a thorough course of practical study in hospitals; but in the event of any student engaging in private practice on his own responsibility before he is legally qualified, it is suggested that he forfeit the year, or years, as a student during which he has so practised.

It is respectfully, but very earnestly, submitted, that the influence and power for good of the General Medical Council would be greatly extended, with the profession and the public, if provision were made in a new Act of Parliament for the representation on the Council of the general body of practitioners of medicine and surgery, who are now, for the most part, deprived of any professional franchise.

In any future Act of Parliament, it is suggested that provision be made for instituting prosecutions under it by a public prosecutor or other public functionary, on behalf of the General Medical Council, instead of leaving the voluntary enforcement of the law to individuals.

The undersigned desire to obtain no privileges for the profession, without giving the public commensurate advantages; and they submit that an Act of Parliament so framed as to raise the standard of professional efficiency, to protect life, and prevent the obtaining of money on false pretences, is an Act as much needed in the general interest of the community, as for the welfare and honour of the medical profession.

5. Moved by Dr Storrar, seconded by Dr Macrobin, and agreed to:—"That the best thanks of the Council be given to the Director-General of the Army Medical Department, to the Director-General of the Navy Medical Department, and to the Right Honourable the Secretary of State for India, for their kindness in furnishing to the Council the Returns of the Examinations of candidates for the respective Medical Services of the Army, Navy, and India."

6. Moved by Dr Embleton, seconded by Mr Hargrave, and agreed to:—"That the Lists of Examining Bodies whose examinations have been adopted by the Medical Council, as regards Preliminary Education, be printed with 'The Form of Application for Registration as a Medical Student,' and sent to the Licensing Bodies, Medical Schools, and Hospitals."

Dr Bennett then took the chair, at the request of the President.

7. *Read*—The following Report of the Committee on State Medicine:—

The State Medicine Committee, appointed June 27, 1868, beg leave to report that in pursuance of the instructions they received, dated July 8, 1868, they have forwarded to various persons at home and abroad the following Letter and Questions:—

Office of the General Council of Medical Education,
32 Soho Square, London, W., 1868.

SIR,—A Committee of the Medical Council has been appointed to inquire into and "to report on the steps proper to be taken, if any, for granting diplomas or

certificates of proficiency in state medicine, and for recording the same in the Medical Register, due regard being had to the interests of existing Health Officers in the several parts of the kingdom."

The Committee have decided that such diplomas or certificates ought to be granted, after due examination, to persons who are already, or shall hereafter be, entered upon the Medical Register, and to no others.

The Committee are about to draw up a report on the education which in their judgment is proper for such persons; the time it should occupy; and the mode of examination.

The Committee would feel much obliged to you if you would give to them your opinion on these points, and on any others which may appear to you proper to be discussed by them.

In order to assist you in arranging your answer, I venture to append a list of questions, by no means intending to limit the form or extent of your communication, but to indicate in certain detail the information the Committee desire to obtain.

A memorandum drawn up for another purpose is also enclosed.

Of course the Committee do not presume to trouble you to answer those inquiries with which you may not be familiar.

The Committee desire me to express to you their hope that the national importance of this question may prove a sufficient excuse for the trouble they are giving to you, and that you will be kind enough to return an answer before November, to me, at the above address.—I am, Sir, your obedient servant,

(Signed)

HENRY W. ACLAND,

Chairman of the Committee.

To

QUESTIONS.

1. Various subjects, such as Forensic Medicine, Toxicology, Morbid Anatomy (Human and Comparative), Psychological Medicine, Laws of Evidence, Preventive Medicine, Vital and Sanitary Statistics, Medical Topography, and portions of Engineering Science and Practice, have been suggested as those in which examinations should be passed by candidates for a diploma or certificate in State Medicine. Would you state what are the subjects which, in your opinion, should enter into a programme for this purpose?

2. What is the time which should be exclusively given to these subjects, supposing it to be commenced after the completion of the ordinary period of medical study?

3. What might be the order of such studies? What should be the method of study adopted?

4. In which of these subjects of study would practical instruction appear necessary?

5. To what extent should the study of these subjects respectively be carried? Can you suggest any books which furnish an approximate standard of the knowledge you would recommend?

6. What are the deficiencies which you have observed in medical witnesses?

7. How would you propose to remedy them; by what education—legal or scientific?

8. How should a Court of Examiners in this subject be constituted?

The Committee desire to record their best acknowledgments for the great attention that has been paid to their request by the eminent persons who have replied to the questions.

Immediately following this Report is an analysis of the answers from English correspondents. It has been thought desirable to keep this analysis distinct from the observations of the foreign authorities, whose letters cannot advantageously be dealt with in the same manner.

The answers from home and from abroad are all printed *in extenso* in an appendix.

Dr Rumsey has favoured the Committee with detailed personal observations on the evidence, and although the Committee have not thought it desirable to

embody those remarks in their Report, they have thought it right to place them before the Council.

The Committee are unanimously of opinion that the evidence submitted in these documents warrants, and indeed demands, that the Council should insert the requisite clauses for providing a qualification in State Medicine in any amended Bill which may hereafter be prepared for Parliament.

Should the Council see fit to agree to this recommendation of the Committee, the individual members of the Council will be able to give before the next session of the Council their serious attention to the details they would wish to see embodied in any scheme or by-laws for carrying such clauses into effect.

This seems the more necessary, because, although there is a uniform testimony among all the correspondents of the Committee, that grave attention is due to the condition of public medicine in the present state of this kingdom, there is great discrepancy as to the duties to be assigned to officers for forensic and sanitary purposes, and as to the conditions under which these officers are to be appointed. The Committee are agreed that the thorough discussion of the question of appointments and duties in the Public Medical Civil Service has become essential for the progress of social administration and organization; and they think it reasonable that medical students or practitioners (however few they may be who wish to devote themselves wholly to this branch of the public service) shall obtain a diploma, certifying the possession of knowledge adequate to the end in view, viz., the prudent and skilled care of the public health and the solution of forensic questions.

As the Council will have the opportunity, at some future period, of discussing the documents now submitted to them, the Committee do not consider it desirable at present to offer any detailed observations of their own; they recommend that the Report and Appendix be forwarded to the licensing bodies and other persons interested in the question of State Medicine.

Henry W. Acland, *Chairman*, Robert Christison, George E. Paget, Edmund A. Parkes, H. W. Rumsey, Aquilla Smith, William Stokes, and Allen Thomson.
July 2, 1869.

Moved by Dr Acland, and seconded by Dr Christison:—"That in any amended Medical Bill which may be prepared for Parliament by the Council, it is desirable that the requisite permissive clauses for registering a Qualification in State Medicine be inserted."

Amendment moved by Dr Andrew Wood, and seconded by Mr Hargrave:—"That the Council come to no decision in the present session as to the desirability of inserting in any amended Medical Bill permissive clauses for registering a Qualification in State Medicine, but that the matter be delayed till next session; and that during the recess the Report of the Committee on State Medicine, with the evidence appended, be transmitted to the licensing bodies for their consideration."

Moved by Dr Rumsey, seconded by Mr Cooper, and agreed to:—"That the debate be now adjourned."

MINUTES OF MEETING, *Thursday, July 8, 1869.*

The minutes of the last meeting were read and confirmed.

1. Moved by Dr Andrew Wood, seconded by Dr Parkes, and agreed to:—"That the communications from Dr John Harley, Mr Courtauld, Dr Mac-loughlin, and Dr Edwards Crisp, be referred to a Committee, which shall report as to their nature and the answers which seem proper to be returned to them."

Committee.—Dr Thomson, *Chairman*; Dr A. Smith, Mr Cooper, Dr Rumsey.

2. Moved by Dr Andrew Wood, seconded by Dr Quain, and agreed to:—"That the standing order be suspended, and that, with the view of expediting the business of various Committees, the Council do now adjourn till to-morrow at two P.M."

MINUTES OF MEETING, *Friday, July 9, 1869.*

The minutes of the last meeting were read and confirmed.

1. The adjourned consideration of the Report of the Committee on State Medicine was resumed.

Moved by Dr Acland, and seconded by Dr Christison:—"That in any amended Medical Bill which may be prepared for Parliament by the Council, it is desirable that the requisite permissive clauses for registering a Qualification in State Medicine be inserted."

Amendment, moved by Dr Andrew Wood, and seconded by Mr Hargrave:—"That the Council come to no decision in the present session as to the desirability of inserting in any amended Medical Bill permissive clauses for registering a Qualification in State Medicine, but that the matter be delayed till next session; and that during the recess the Report of the Committee on State Medicine, with the evidence appended, be transmitted to the licensing bodies for their consideration."

The amendment was negatived.

The motion being then put to the vote, the following amendment was moved by Dr Quain, and seconded by Dr Andrew Wood:—"That the Council, whilst expressing their entire approval of an improved education in State Medicine, and of a definite recognition of the attainment of individuals in the subject by certificates of special proficiency or otherwise, recommend that the Report and Appendix be forwarded to the licensing bodies, with a request that they would favour the Council with their opinions on the following points:—

(1.) The facilities that might be afforded for extending and improving the education of persons wishing to study the subjects comprised in this Report.

(2.) As to the desirability of granting certificates of special proficiency in any or all of these subjects.

(3.) As to the desirability of granting a special degree or diploma in this subject."

The amendment was negatived.

The following amendment was moved by Dr Thomson, and seconded by Dr Andrew Wood:—"That the Council recognises the importance of improving the knowledge of licensed medical practitioners in State Medicine, and is favourable to the recognition of superior attainments in that department in the Medical Register. And with a view to obtaining the opinion of the various licensing bodies as to the mode in which these objects may be best accomplished, they resolve to send the Report of the State Medicine Committee and the evidence contained in it to the several licensing bodies, with a request that the Council may be favoured with their opinions on the subject."

The amendment was negatived.

The following amendment was moved by Mr Caesar Hawkins, and seconded by Dr Stokes:—"That the following words be added to the original motion—"in addition to any of the qualifications sanctioned by the Medical Act."

This amendment was carried, and the original motion, with the addition, viz.—"That in any amended Medical Bill which may be prepared for Parliament by the Council, it is desirable that the requisite permissive clauses for registering a Qualification in State Medicine be inserted, in addition to any of the qualifications sanctioned by the Medical Act," being put to the vote, was agreed to.

2. The President then addressed the Council, and concluded by resigning his office.

Moved by Dr Andrew Wood, seconded by Mr Hargrave, and agreed to:—"That Dr Stokes be requested to take the chair."

Moved by Mr Caesar Hawkins, seconded by Dr Christison, and agreed to:—"That the warmest thanks of this Council be given to the late President for

the able and admirable manner in which he has so long conducted the business of the Council; for the kindness and impartiality which he has uniformly displayed towards the members of the Council, and the determination he has shown on all occasions to conduct their discussions with the view to the improvement of the education of the medical profession and the welfare of the public; and that this motion be communicated to the late President."

3. Moved by Dr Acland, seconded by Dr Andrew Wood, and agreed to:—"That the Council adjourn until five o'clock."

4. The Council resumed its sitting; Dr Stokes in the chair. The reporters were requested to retire.

Moved by Dr Andrew Wood, seconded by Dr A. Smith, and agreed to:—"That the standing orders be suspended, and that the Council continue their sitting beyond the hour of six."

Moved by Dr Christison, seconded by Dr Acland, and agreed to:—"That the reporters for the public press be readmitted."

Moved by Dr A. Smith, seconded by Sir Dominic Corrigan, and agreed to:—"That Dr Paget be appointed President."

Dr Paget, having been elected President, then took the chair.

MINUTES OF MEETING, *Saturday, July 10, 1869.*

The minutes of last meeting were read and confirmed.

1. The Council having balloted for the Executive Committee, the following were found to be elected:—Dr Bennett, Mr Hawkins, Dr Acland, Dr Andrew Wood, Dr A. Smith, Dr Sharpey.

2. *Read*—The following Report of the Finance Committee:—

The Finance Committee beg leave to present, in the subjoined table, a statement of the estimated and actual income from ordinary sources, and of the estimated and actual expenditure for the year 1868, also an estimate of the income and of the expenditure, so far as the Committee are able to judge, for the year 1869.

In estimating the expenditure for 1869, as compared with that of 1868, the Committee have made a deduction of the expense of visiting examinations, which has not been incurred this year, and have also had in view the saving that may probably be effected on the ordinary account for printing, in consequence of the adoption by the Council of the measures of economy recommended by the Executive Committee; but, on the other hand, they have had to allow for a considerable extra charge for printing and other expenses incurred by the two special committees on Education and State Medicine appointed last year. The result is an estimated excess of expenditure over income of £575.

In last year's Report it was stated that the sum remaining due to the Council on the 5th January 1868, for advances on account of the *Pharmacopœia* was £712. Since then, the receipts from the sale of the work, after deduction of all expenses, have produced £735, 16s. Of this sum, about £500 will be required to defray the charges for a re-issue of 5000 copies of the *Pharmacopœia*, ordered by the Executive Committee, in consequence of the original impression of 20,000 copies being wellnigh exhausted. The money balance in hand, together with what may be expected from the sale of the remaining stock and the whole of the new issue, after deducting various expenses, may be reckoned at upwards of £1500, which, after covering the outstanding debt due to the Council, will eventually yield a balance of £800.

W. SHARPEY, *Chairman.*

		<i>Estimated income for the year 1868.</i>				<i>Actual income for the year 1868.</i>				<i>Estimated income for the year 1869.</i>					
		£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.		
Fees received by—		2400	0	0				2492	15	0					
Branch Council for England		650	0	0				757	0	0					
" " Scotland		800	0	0				837	15	0					
" " Ireland					3850	0	0			4087	10	0			
Dividends received by—		630	0	0				617	10	10					
Branch Council for England		80	0	0				67	6	10					
" " Scotland		60	0	0				62	7	4					
" " Ireland					770	0	0			747	5	0			
Sale of Registers . . . .		...			300	0	0	...		284	9	6	
Penalty . . . . .					...			...		10	0	0	
					£4920	0	0			£5129	4	6			
													£5025	0	0

		<i>Estimated expenditure for the year 1868.</i>				<i>Actual expenditure for the year 1868.</i>				<i>Estimated expenditure for the year 1869.</i>			
		£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Expenses of—		...			3400	0	0	...			4044	1	3
General Council		800	0	0				622	9	7½			
Branch Council for England		345	0	0				264	1	6			
" " Scotland		300	0	0				259	12	1			
" " Ireland					1445	0	0			1146	3	2½	
					4845	0	0	Total Exp.	5196	4	5½		
								Total Inc.	5129	4	6		
Balance in) favour of) Med.Coun. }					75	0	0	Excess of					
					£4920	0	0	Exp. over					
								Income					
									£60	19	11½		

		5600	0	0
Estimated		5025	0	0
Income				
Estimated				
excess of		£575	0	0
Expend.				

Moved by Dr Andrew Wood, and seconded by Dr Quain:—"That the Members of Council be allowed five guineas a day for six days, or whatever number of days under six the Council may sit. That whatever the duration of the session of the Council, the sum paid to each member shall not exceed thirty guineas. That when a member is absent without the permission of the President from any meeting after the sixth day, he shall forfeit the sum of three guineas for each day that he may be so absent. That the travelling expenses and hotel expenses remain as at present."

Amendment moved by Dr Christison, and seconded by Dr Thomson:—"That the annual session be limited to six days; and that the powers of the Executive Committee be extended in the Medical Acts Amendment Bill, so as to allow any remaining business of the Council to be transacted afterwards by the Executive Committee."

The amendment was not carried.

Amendment moved by Dr Fleming, and seconded by Dr Thomson:—"That it be remitted to the Executive and Finance Committees jointly to consider and to report on the best means of lessening the expenditure of the Council."

The amendment was carried, and having been put as a substantive motion, was agreed to.

Moved by Dr Bennett, seconded by Dr A. Smith, and agreed to:—"That the Report of the Finance Committee be received and adopted."

3. Moved by Dr Acland, seconded by Dr Stokes, and agreed to:—"That the standing order be suspended at 4 o'clock, and that the Council continue its sitting to-day until 5.30."

4. Moved by Dr Andrew Wood, seconded by Dr Parkes, and agreed to:—"That the Report of the Committee on Medical Education be received and entered on the Minutes, and that the Appendices be added to the volumes of Minutes of the Council."

* The estimated increase on this item is in consequence of £2000 three per cent. stock having been purchased during the year 1868.

REPORT.

At a meeting on June 26, 1868, the Medical Council passed the following resolution (Minutes, vol. vi. p. 189):—"That a committee be appointed to consider and report how the various subjects of Medical Education which have been deemed requisite by the Council may be taught with most advantage; in what order they should be studied; and how the examinations on them ought to be arranged."

A Committee (consisting of Mr Syme as Chairman, and of Dr Andrew Wood, Mr Hawkins, Dr Acland, Dr Allen Thomson, Dr Aquilla Smith, Mr Hargrave, Dr Apjohn, Dr Sharpey, Dr Christison, and Dr Parkes, as members) being appointed, found that the various subjects of medical education deemed requisite by the Council had been fixed by a resolution of Council (June 7, 1867), and were ten in number—viz., Anatomy, General Anatomy, Physiology, Chemistry, Materia Medica, Practical Pharmacy, Medicine, Surgery, Midwifery, and Forensic Medicine.

The Medical Council had also fixed a term of four years as the period which should be occupied with medical education before the examination for the license should be undergone.

In accordance with these resolutions, we addressed the following letter to various teachers who, we thought, would give us the best information. We were not able to address it to all teachers, but we endeavoured to obtain answers from all parts of the kingdom, so that every mode of teaching and every large school might have its representative.

Office of the General Council of Medical Education,
32 Soho Square, London, W., July 1868.

SIR,—A Committee of the Medical Council has been appointed to inquire "how the various subjects of medical education which have been deemed requisite by the Council may be taught with most advantage; in what order they should be studied; and how the examinations on them ought to be arranged."

By the recommendation of the Medical Council, four years are to be devoted to the study of the ten following subjects—namely, 1. Anatomy; 2. General Anatomy; 3. Physiology; 4. Chemistry; 5. Materia Medica; 6. Practical Pharmacy; 7. Medicine; 8. Surgery; 9. Midwifery; 10. Forensic Medicine. There must, therefore, be a limit to the extent and detail in which the several branches can be taught.

The above inquiry is restricted to the course of study which is necessary to enable students to obtain the requisite knowledge and skill for the efficient practice of their profession, and is not intended to embrace the fuller courses of study suited for the higher qualifications.

Having regard to the nature of the inquiry and circumstances, as above stated, the Committee would feel obliged by your communicating to them in writing the expression of your opinion on the following points:—

1. The topics which may most advantageously be included under the subject of ———.

2. The period in a four years' course when ——— can be most profitably studied, and the length of time which should be devoted to ———.

3. The manner in which ——— can best be taught—by lectures, practical instruction, or otherwise.

The Committee would also feel obliged by any further observations or information which may occur to you as deserving of attention in connexion with the subject of their inquiry.

The Committee beg leave to express their hope that the importance of the subject in question will induce you to forgive the trouble thus proposed, and that you will transmit your reply to me at the above address, on or before the 1st of October 1868.—I am, Sir, your obedient servant,

(Signed)

JAMES SYME,¹ *Chairman of Committee.*

¹ On Mr Syme's retirement from the Council, Dr Andrew Wood was chosen as Chairman.

We have to express our thanks to the 131 gentlemen who have kindly complied with our request, and who have given us information of great value on the best modes of medical education. Their names are given in Appendix No. I., where all the replies are placed under the several headings. In a Second Appendix we have placed three documents. The first is a Report from the Council of the Medical Teachers' Association of London; the second is one from the Association itself, based on the former Report; the third document is an abstract of the systems of medical education in North Germany, Austria, and France, by Dr Beigel, and the late Mr Alexander Bruce, who drew up at our request an abstract giving a general view of the system of medical education in these countries. The Third Appendix contains Observations on Medical Education, by Dr Christison.

We will not occupy space by analyzing this evidence, or by enumerating the defects in medical education, which are noticed in many of the answers. There can be no doubt that during the last fifteen or twenty years very considerable progress has been made in the improvement both of medical teaching and examinations. The Licensing Boards have shown a laudable anxiety to further this object; the Medical Council has not been remiss in urging it forward; and there has certainly been a great improvement in the knowledge of practitioners throughout the country. It must be admitted, however, that there is room for improvement, and we trust the Council will find no difficulty in coming to an expression of opinion which will be satisfactory to the profession, and will conduce to the benefit of the public at large.

The Council, by its resolution appointing the Committee, did not intend to inquire into, or in any way to consider the higher Medical qualifications given by the Universities or Corporations. The course of study, the method of examination, and the qualifications necessary to insure that the public should be supplied with a properly-educated and trustworthy body of general medical practitioners, are the points we have had in view.

It will be convenient to arrange our Report nearly in the order of the Resolutions of the Council.

I.—The Subjects Deemed Requisite by the Council.

1. The General Medical Council, by its resolution of June 7, 1867, excluded Botany from the curriculum of subjects; and, consequently, we did not include it in our inquiry. But we are not satisfied that this matter has been sufficiently considered, and we advise that it shall be again discussed by the Council, and that an opinion shall be once more given as to whether a knowledge of Botany is or is not necessary for a medical practitioner. If the decision be the same as before, the matter is ended; if the Council, however, after renewed consideration, declares Botany to be necessary, it must be determined whether it shall be studied before the commencement of medical studies—*i. e.*, be made a compulsory subject at the preliminary or entrance examination—or shall be included among the subjects taught in the four years of the Medical curriculum. If the Council decides that Botany shall be studied before medical education is commenced, it ought to take measures to satisfy itself that the kind and amount of knowledge which it deems necessary is really attained, and that the examination which the Council accepts as a proof of knowledge is properly conducted.

We pass no opinion on this point, but a resolution will be moved for the purpose of bringing it once more under discussion in the Council.

2. A question has been raised as to Chemistry. Some gentlemen who have replied to our letter have suggested that Chemistry shall be a preliminary subject—*i. e.*, shall be learned before the commencement of medical studies, and a year is named as the time during which it should be studied. This suggestion involves more than it professes to do. If a year is to be given up to Chemistry, it will really be nothing more nor less than a year of the medical curriculum, to which it will be added, or from which it will be taken.

Another plan has been proposed by the Medical Teachers' Association and others. Surrendering the proposal to make Chemistry entirely preliminary, it is still thought that Elementary Chemistry might be made a compulsory subject of the Preliminary Examination of general education, and it is, we presume, anticipated that the medical curriculum would be thereby lightened.

The matter seems to us to stand thus: Chemistry is so important, indeed so necessary for good medical training, and is so interwoven, as it were, with Physiology, Pathology, Dietetics, and medical practice, that we have no doubt it must be thoroughly studied during the medical curriculum; and even if we could look forward to a time when the study of Chemistry in our general schools would render this unnecessary, we are sure that that time is yet far distant. But if it were possible to secure for the student some previous knowledge of Chemistry, it would doubtless aid both him and his teacher. However, by making Elementary Chemistry a compulsory subject of the preliminary examination, we fear the Council, in the present state of general education, would put itself in this dilemma: either such a preliminary examination of Chemistry would be worthless, or if severe enough to be a test, it would impose a study out of the range of ordinary schools, and might therefore prevent some persons from entering the profession, or would add to the expense of medical education.

At the same time, the fact of the Medical Council placing Elementary Chemistry among the compulsory subjects of the preliminary examination would give a powerful impetus to its study in general schools throughout the country, and in this way the proposed regulation would be useful, but it could not be looked upon as likely to lessen at present the amount of Chemical instruction in the medical schools. We shall bring forward a resolution to take the sense of the Council in this matter.

3. The subject of Zoology was not included by the Council among the necessary subjects. It has been suggested it should be so, but in this we cannot agree. Zoology may very properly be demanded from those who take the higher qualifications; but there are already sufficient subjects, more directly related to his future duties, to be studied by the student intended for general medical practice.

4. The ten subjects enumerated by the Council are obviously essential, but we think it would conduce to efficient teaching if some of these subjects would again be divided. We would propose to add to Chemistry, Medical (*i.e.*, Physiological and Pathological) Chemistry, so as to carry out the definition of the Council, "That Chemistry should include those details of the science which bear on the study of Medicine." It is also expedient that Physics should henceforth be made a separate branch of study. The Council has separately enumerated Materia Medica and Practical Pharmacy, but we propose also a farther division into Therapeutics, and would employ the term Pharmacy in place of Materia Medica, which is a generic word, including Pharmacy and Therapeutics. So also, Pathological Anatomy should be made a separate division, as is suggested indeed by the Council, and Hygiene should be added.

The Council will understand that these changes do not really increase the number of subjects, and do not necessarily add to the number of lectures and to the student's work; he is supposed at present to learn all of these, but the division enables a more complete view of what is taught, and also a better order of tuition to be attained.

The list of subjects will therefore stand as follows:—1. Physics; 2. Chemistry; 3. Medical Chemistry; 4. Anatomy; 5. General Anatomy; 6. Physiology; 7. Pharmacy; 8. Therapeutics; 9. Medicine; 10. Surgery; 11. Pathological Anatomy; 12. Midwifery; 13. Forensic Medicine; 14. Hygiene.

II.—*The Order in which these Subjects should be taught.*

5. The nature of the subjects at once fixes a certain order. Anatomy, Chemistry, and Physiology must necessarily precede Medicine, Surgery, and Midwifery.

The rules of the various Licensing Bodies have already sanctioned the division, and in accordance with their regulations, and in order to prevent confusion, it is clearly desirable not to mix up what may be termed the preparatory and the practical subjects.

The rules and the periods of the examination of almost all the Licensing Bodies are in accordance, and the North German Permissive Plan, as given in Appendix II., is the same in principle.

6. It will be observed, that in some of the replies it is recommended that students should be encouraged to attend the hospital and gain what practical knowledge they can from the very commencement of their studies. This is a matter on which there is a difference of opinion; but provided a student does not neglect the studies which are enjoined, and does not interfere with the hospital work of the older students, he might voluntarily attend the hospital throughout his whole period of study. But we are of opinion he should not be compelled to attend until a certain date.

7. If the total period of study be four years, what length of time should be occupied with the two series of subjects into which medical education can be divided?

Several teachers suggest that the *Annus Medicus* should begin in the summer, and not in the winter. The suggestion is worthy of attention, because in the first summer session there is sufficient time to go over several preparatory subjects. It does not, however, enable the line between the two classes of subjects to be so well drawn as in the year beginning with the winter session. It has also been suggested that the length of the winter session should be shortened to four and a half or five months, and that of the summer session lengthened to four or four and a half months. It would be well for the Council to ascertain from the several Licensing Bodies if there would be any decided advantages or any difficulties in such an arrangement.

If the medical year begins in October or November, as at present, the following scheme seems to us to arrange the subjects in a satisfactory manner, and with a length proportionate to their importance, and to include, as far as we can manage it, the views of those who have best considered the matter. It will be understood that this scheme is merely to show the practicability of the arrangement, and not to lay down a course to be invariably followed.

First Winter Session.—Physics (by a separate teacher). Chemistry. Practical Chemistry, qualitative (in the last three months). Anatomy and Dissections.

First Summer Session.—Medical Chemistry, viz., Physiological and Pathological Chemistry, including Chemistry of Poisons. General Anatomy, including the practical study of Minute Anatomy and Histology. Botany (if included in the curriculum). Pharmacy and Practical Pharmacy.

Second Winter Session.—Anatomy. Dissections. Physiology (by lectures and practical study).

First Examination for the License in Anatomy, Physiology, Chemistry, Pharmacy, etc., to be undergone at the end of the second winter session, or eighteen months after the commencement of medical studies.

By this plan, a distinct separation is made between the preparatory and practical subjects, and sufficient time is given for the latter. The only subject included which is not truly preparatory is Pathological Chemistry, but it is convenient at present to place that subject with Physiological Chemistry, of which it can easily be made an offshoot.

Second Summer Session.—Hospital practice, with initiatory Clinical instruction in Medicine and Surgery.

Third Winter Session.—Systematic Lectures on Medicine and Surgery. Hospital Practice and Clinical Lectures.

Third Summer Session.—Therapeutics. Pathological Anatomy. Hospital Practice and Clinical Lectures. Operative Surgery.

Fourth Winter Session.—Midwifery and Diseases of Women and Children, and Practical Midwifery. Hospital Practice and Clinical Lectures. (Special

Instruction in Diseases of the Eye, Ear, Teeth, in Vaccination, in Mental Diseases, etc.)

Fourth Summer Session.—Forensic Medicine. Hygiene. Hospital Practice and Practical Midwifery.

Final Examination for the License in Therapeutics, Medicine, Surgery, Midwifery, Forensic Medicine, and Hygiene.¹

8. In arranging this order it will be seen that we have aimed in the first division at the following points: that the student should study Anatomy and dissect in two winter sessions,—but we do not desire to see the same course of Anatomy repeated; that Chemistry should be taught as a science, and practically, in the first winter session, and that its applications to medicine should follow immediately in the next summer session, because in subsequent years, when the hospital would be attended, there would be no time to perform laboratory work; and that Physiological Chemistry and General and Minute Anatomy should precede Advanced Physiology, to which these subjects are necessarily an introduction. It will be noticed that in several of the replies from Anatomical teachers, it is recommended that Anatomy be studied for three or even four years. We are fully impressed with the value of Anatomy, but it must be remembered there are other subjects equally important, and that time must be allowed for them. Anatomy is, therefore, recommended to be studied for eighteen months, and Chemistry and Physiology for a year.

If the examination is conducted at the end of the second winter session, the time would be convenient for obtaining Anatomical subjects.

9. In the second division, the only alteration which calls for remark is the time allotted to Midwifery. It will be seen from the evidence in the Appendix that several of the best Midwifery teachers would place that subject in the third year; but we believe that it will really be better, first to teach general Medicine and Surgery, and, besides continuing the study of these, to let the last twelve months be also occupied with Midwifery and with special classes of disease, on which particular instruction is much needed, as, for example, Diseases of Women and Children, Mental Affections, Ophthalmology, etc. We are decidedly of opinion that the present space allotted to Midwifery in the regulations of some of the Licensing Bodies is too short, and that, as was formerly the case, it should extend over one winter session, and that instruction in Practical Midwifery should also be extended.

III.—*The Method of Teaching these several Subjects.*

10. Some apprehension has been expressed lest the Council might lay down rules as to methods of teaching, which might too much limit the freedom of teachers. We do not think that the Council is likely to do this to any greater degree than has always been done by the Medical Corporations.

¹ If the *Annus Medicus* began in the summer session, the following might be the order of the subjects. In this arrangement the advantage is gained of occupying the first summer session with preparatory teaching, which will prepare the student properly for the more advanced courses of the following session.

First Summer Session.—Physics. Chemistry (Elementary). Osteology. Botany (if included in the curriculum).

First Winter Session.—Anatomy and Dissections. Chemistry and Practical Chemistry.

Second Summer Session.—Medical Chemistry, viz., Physiological and Pathological Chemistry. General Anatomy and Microscopy. Pharmacy and Practical Pharmacy.

Second Winter Session.—Anatomy and Dissections. Physiology (by lectures and practical study).

(FIRST EXAMINATION.)

Third Summer Session.—Initiatory Surgical Instruction in Practical and Operative Surgery. Initiatory Medical Instruction in

Methods of Examination and Diagnosis. Hospital Practice.

Third Winter Session.—Lectures on Medicine. Lectures on Surgery. Pathological Anatomy. Hospital Practice and Clinical Lectures.

Fourth Summer Session.—Midwifery and Practical Midwifery. Therapeutics. Forensic Medicine. Hospital Practice and Clinical Lectures.

Fourth Winter Session.—Diseases of Women and Children. Practical Midwifery. Special Hospital Instruction in Diseases of the Eye, Ear, Mind, in Vaccination, etc. Hospital Practice and Clinical Lectures. Hygiene.

(SECOND EXAMINATION.)

We have placed in our Appendix the opinion on every subject of a large number of the teachers best qualified to judge; and we think it will be the wisest course to allow these opinions gradually to produce their effect on the method of teaching. Time will show whether it will be advantageous for the Council to discuss more fully special modes of tuition in all or certain subjects.

We are of opinion, however, that there are certain general rules which should be enforced.

11. For many years Practical Chemistry has been compulsory; but the answers of the eminent chemists whom we consulted show that Chemistry must be still more practically dealt with, and some even recommend the discontinuance of formal chemical lectures. We are not prepared to adopt this latter recommendation, but we have no doubt the laboratory work should be much more carefully done, while the systematic lectures might probably be more restricted.

12. Then with respect to the application of Chemistry to Physiology and Pathology (a point of the highest importance), we have no doubt the instruction should be chiefly practical, and should take place in a museum and laboratory, after the chemical course has been gone through.

13. In Pharmacy the instruction should largely consist of demonstrations or examinations in a museum, and be as practical as possible, while opportunities for learning must be given both in a Pharmaceutical laboratory and by practical dispensing.

14. With regard to Anatomy, whilst we have not thought it requisite to make any division of the subject beyond what has already been done by the Council, we think it desirable to direct the attention of teachers to the great importance of devoting particular attention to those departments of the study which have most direct relation to medical and surgical practice.

15. Minute (including Microscopic) Anatomy is, in some parts of the kingdom, considered to belong to the Anatomical course, while in other places it is included in the Physiological. We believe this latter view to be correct, and we would advise that the anatomical lecturer shall not include in his course General and Minute Anatomy; but we also consider these subjects should be separated from the Advanced Physiological lectures, and be studied previously, but under the supervision of the physiological teacher.

16. Finally, in regard to hospital practice, without encroaching on the systems preferred by individual physicians and surgeons, we may state there is an urgent need of improving practical hospital training in many schools. The replies on this head in the Appendix are of great value. We believe that not only practical hospital classes in Medicine and Surgery should be more commonly instituted than at present, but that every student should perform the duty of clerk and dresser, even if the time now occupied in these offices were shortened, and the amount of work done by each clerk or dresser lessened. At present, in our large schools, there are many students who never have the opportunity of practical work of this kind, which they may be called on to perform the day after they have passed their examinations. But it is surely proper that the amount of hospital instruction, whatever may be its extent, should be equally proportioned among all those who pay their fees, in the faith of receiving their share of this instruction. It only requires more system and a proper use of the various departments of an hospital (both the in and out patient departments), and division of the students among them, to ensure that every student shall get the full benefit which his hospital is capable of giving him. In addition, the opportunities of instruction afforded by hospitals, infirmaries, and dispensaries, which are not attached to medical schools, should be taken advantage of.

17. There is one matter, however, in respect of teaching, which the Medical Council may not only properly regulate, but is urgently called on to do so. We refer to the extent to which the teaching of each subject is to be carried.

Whoever will consider the great extent of the sciences which lie at the

foundation of Medicine and Surgery, and, indeed, in the present day, the extent of the practical parts of Medicine and Surgery, will see that some limit must be assigned to the amount of knowledge which can be fitly exacted.

The Committee is aware that teaching may in some subjects be carried to such an extent as to throw unnecessary difficulties in the way of the candidate for a general license. We do not think it expedient to interfere directly by regulation with this matter, but we are of opinion that all that is necessary may be accomplished through the examinations.

With this view, we recommend that the various Licensing Bodies be requested to state the extent and nature of the examinations which they require in the different subjects of the curriculum. We further recommend, that on receiving these statements, the Council shall compile a set of rules, which will indicate the most important parts of each subject, and serve as a guide to teachers, *in so far as applies to the preparation of the candidates for the license*. These rules can be revised from time to time, as the subjects advance and the modes of teaching improve.

In this way the examinations in the three divisions of the kingdom will be made much more uniform; medical students intended for general practice will know more precisely how far they must learn, and within what limits an exact knowledge may reasonably be demanded from them.

IV. *Arrangement of the Examinations.*

18. This was the last point referred to us by the Council, and we understand the reference to mean, how the examinations of all kinds may be conducted, so as to answer the effect of allowing no one to enter on general medical practice who is not fully competent.

It will be seen that we have not adopted the view of the Medical Teachers' Association, that there should be three professional examinations, viz., at the end of the first year, of the second year, and of the fourth year. There is a disadvantage in having so many examinations, as regards both students and examiners, and the objects of the Association can be, we think, met by placing the school examinations on a better basis.

19. We would propose, then, two examinations by the Licensing Bodies as heretofore, the first a primary examination, embracing Anatomy, Chemistry, Physiology, and Pharmacy, at the end of the second winter session, and the second or pass examination, including all the other subjects, at the end of the fourth year.

20. But we would propose to prepare for these examinations by having more regular class examinations. The Medical Council has, on several occasions, expressed its wish that the class examinations should be more thoroughly conducted than they now are, at least in most cases, and we propose that the Council should now give effect to its suggestion.

With this object, we would propose that no certificate of attendance on a course of instruction be accepted as valid by a Licensing Body, unless it attests that the student has been duly examined during the progress of such course, and especially at its termination. In this way each student may learn from his teacher the degree of proficiency he has attained in a given branch of study.

21. The professional examinations of the Licensing Bodies have been already repeatedly inspected by the Medical Council, and improvements which will make them more efficient tests have been and are being gradually introduced. Still the examinations are not quite satisfactory, and we recommend that the Council should continue their visitations from time to time, and should watch over the working of the plans they have seen in action, and above all, that the Council should see that every part of the system of instruction be fully tested. The scope of the examination for the license ought, in fact, to include every part of the work done in the schools, practical or otherwise. Especial attention should be paid by the Council to the necessity of requiring in all cases that

the clinical examination of surgical and medical patients shall form part of the pass examination.

The supervision by the Council has hitherto been conducted by the Branch Councils, and has certainly worked very fairly; but if the institution of independent visitors be impossible, we think the efficacy of visitation would be increased were the Branch Council of one division of the kingdom to visit the examinations of another.

22. One of the great evils at the present moment is the inequality of the examinations for the license. This inequality of the test of efficiency is the more unfortunate, as every license confers an equality in the right to practise everywhere. The easy examination of one Licensing Body tends to depress the standard of the examination in all the rest. Visitations of examinations doubtless partly remedy this state of things, but to completely remove it a bolder course is necessary. The time has now arrived when, leaving to the Universities and Corporations full liberty to deal as they please with their honorary distinctions and degrees, the Medical Council should endeavour to effect such combinations of the Licensing Bodies included in Schedule (A) as may form a conjoint Examining Board for each division of the kingdom, before which every person who desired a license to practise should appear, and by which he should be examined on all subjects. Any higher degrees he may wish to take should come after, and should be optional.

This plan is one which the Council has often approached and has recommended in principle.

We feel assured that the examinations for license will never be made satisfactory without it, and, therefore, that it is for the public good to enforce it without delay. Considering, also, the extent to which the Colleges of Surgeons and Physicians have already combined in England and Scotland, we cannot apprehend any insuperable difficulty in carrying out this object.

23. To enter into the details of such an arrangement of conjoint Examining Boards, would lead us beyond the scope of the inquiry intrusted to us. The notice of the point has, however, naturally grown out of our subject; and we trust the Council will appoint another committee to consider and report how the examinations for license in the three kingdoms can be thus provided for, and then apply, if necessary, for Parliamentary powers to carry the recommendation into effect.

24. We have now to sum up our answer to the resolution of the Council appointing this Committee. We recommend—

1st.—That the ten subjects deemed necessary by the Council be further subdivided, for the purposes of teaching, as follows:—1. Physics. 2. Chemistry. 3. Medical Chemistry. 4. Anatomy. 5. General Anatomy. 6. Physiology. 7. Pharmacy. 8. Therapeutics. 9. Medicine. 10. Surgery. 11. Pathological Anatomy. 12. Midwifery. 13. Forensic Medicine. 14. Hygiene.

2d.—That Physics, Chemistry, Medical Chemistry, Anatomy, General Anatomy, Physiology, and Pharmacy (and Botany if included), be studied previously to passing the first professional examination.

3d.—That in the remaining period of the four years, the other subjects shall be studied, viz., Therapeutics, Medicine, Surgery, Pathological Anatomy, Midwifery, Forensic Medicine, and Hygiene, and that the second or pass examination shall then take place.

4th.—That the exact order, number of lectures, and amount and kind of practical instruction be left to the schools, a guide being furnished to them by a definition of the area in each subject over which the examination will extend.

5th.—That the schools institute class examinations in all these subjects, and that the certificate of study shall attest that the student has undergone these examinations.

25. If the Council approve the policy sketched out in this Report, and decide on carrying it into effect, we suggest that a small committee, consisting of about five members, shall be appointed, and shall receive full powers to enter during

the recess into communication with the various Licensing Bodies with respect to the limits of examination; and that this committee shall present to the Council, at its meeting in 1870, a definite plan showing the extent to which the Licensing Bodies propose to carry their examinations. This committee should also have power to enter into the other matters noted in the Report, especially into the possibility of forming conjoint Examining Boards, before which every student shall appear to entitle him to receive a license to practise. The Council will then be in a position next year to take definite action in the matter.

ANDREW WOOD, *Chairman*.

Moved by Dr Andrew Wood, seconded by Dr Parkes, and agreed to:—
“That the Report of the Committee on Education be taken into consideration at the next session of Council, and that in the meantime the Report, with the Appendices, be submitted to the various Licensing Bodies for their consideration and remarks, with a request that their remarks be sent to the Registrar on or before the 1st December 1869.”

Moved by Dr Andrew Wood, seconded by Dr Parkes, and agreed to:—
“That a Committee of five members be appointed, to whom the comments of the Licensing Bodies on the Report of the Committee on Education be referred, and who shall have power to discuss with the Licensing Bodies the various points raised in the Report, and to embody the results in a Report to be sent to the Executive Committee, at least one month before the next session of Council. The Committee shall have power to fill up any vacancies that may occur in its numbers during the recess.” The Committee to consist of—Dr Parkes, *Chairman*; Mr Hawkins, Dr Andrew Wood, Dr A. Smith, Dr Sharpey.

5. *Read*—The following Report of the Committee on Preliminary Examination:—

Your Committee have considered the Reports from the Branch Councils on the Resolution passed by the General Council on the 4th July 1868, referred to them by the General Council on the 1st July 1869, with the light of additional information.

It appears that the Branch Council for England, after a full review of the subject of Preliminary General Education and Examination, and of the Report on “General Education and Examination” adopted by the General Council on the 11th August 1859, especially of the following paragraph of that Report, viz., “That the Examination on General Education be eventually left entirely to the Examining Boards of National Educational Bodies recognised by the Medical Council,” desire to adhere to the view thus expressed, and to divest at as early a period as possible all the Medical Bodies of the duty of conducting Preliminary Examinations on General Education. It further appears that the Branch Council for England have met with no difficulty in exercising the privilege of inspecting the examinations of National Educational Bodies. Your Committee are of opinion that the examinations conducted in England exclusively by National Educational Bodies justify the confidence placed in them by the Branch Council for England, and they would be well pleased to see the duty of Preliminary Examination in Arts entirely transferred to these bodies.

The Branch Council for Scotland, on the other hand, desire that the General Council should recommend the Licensing Bodies to establish a joint Board of Preliminary Examination in Arts, over which the Branch Council could exercise control. Your Committee are of opinion that without greater legal powers than are at present possessed under the Medical Acts, it would not be competent for the General Council, or for a Branch Council, to require the establishment of such a joint Board, but they consider the establishment of such a Board by voluntary agreement to be highly desirable, and recommend the Branch Council to encourage its formation, provided the examinations are conducted by persons external to the Licensing Bodies or Faculties of Medicine, and free from all control beyond inspection by members of the General or Branch Council. It would, nevertheless, be satisfactory to your Committee that these examinations

should eventually be placed entirely in the hands of National Educational Bodies in Scotland.

The Branch Council for Ireland are of opinion that the institution of a Board of Preliminary Examination in each division of the United Kingdom might be very desirable if the legal rights and privileges of the several Licensing Bodies permitted it. In this case, your Committee can only suggest, in the event of no available examinations being established in Ireland by National Educational Bodies, that recourse might be had to the institution of a joint Board by voluntary agreement, subject to the same conditions as have been suggested for Scotland.

Your Committee have examined the scheme for Local Examinations instituted by the University of Edinburgh which has been referred to them, and recommend that the "Examination of (Senior) Candidates for Honorary Certificates" of that University be accepted as satisfactory evidence of General Education, provided the pass certificates shall attest an examination on all the subjects required by the General Council.

Your Committee have also examined the scheme for "Voluntary Examinations" instituted by Christ's College, Canterbury, New Zealand, which has been referred to them, and recommend that certificates of having passed the "Voluntary Examination" of Christ's College be also accepted as satisfactory evidence of General Education, provided such certificates shall attest an examination on all the subjects required by the General Council.

ALEXANDER WOOD, *Chairman*.

Moved by Dr Alexander Wood, seconded by Dr Storrar, and agreed to:—"That the Report of the Committee on Preliminary Examination be received and entered on the Minutes."

Moved by Dr Bennett, and seconded by Dr Storrar:—"That inasmuch as there are now, in England, National Examining Boards on subjects of Preliminary Education which are readily available by students throughout the kingdom, and whose certificates are in all respects deserving of the confidence of the Council, the time has arrived when the special Preliminary Examination in General Knowledge instituted by the English Medical Corporations should cease to be recognised."

Amendment moved by Dr Andrew Wood, and seconded by Mr Hargrave:—"That the Council consider that it would be desirable that in any new amendment of the Medical Act, a clause should be inserted enabling the General Council, or the Branch Council of any part of the kingdom, to establish a Board or Boards for the examination of Medical Students in General Education."

The amendment was negatived.

The motion was withdrawn with the permission of the Council.

Moved by Mr Caesar Hawkins, seconded by Dr Acland, and agreed to:—"That the attention of the several Medical Corporations be drawn to the Recommendation (No. 4 of the Recommendations and Opinions issued by the Medical Council, viz., 'That the Examination in General Education be eventually left entirely to the Examining Boards of the National Educational Bodies recognised by the Medical Council,' and that their opinion be asked whether the time has not now arrived when this Recommendation should be carried into effect."

6. *Read*—A communication from the Royal College of Physicians of London, with copy of their License.

Moved by Dr Bennett, seconded by Dr Christison, and agreed to:—"That the communication and copy of License be received and entered on the Minutes."

Royal College of Physicians, London, S.W.,
July 7, 1869.

DEAR SIR,—I am directed by the President to forward to you, for the information of the General Medical Council, a copy of the form of License to be

granted henceforth by the College, which form of License has been prepared by the legal advisers of the College.

I am further directed to state that the "License to practise Physic" granted by the College under the authority of its Charter and Act of Parliament is a legal qualification to practise Medicine, Surgery, and Midwifery, and that such Licentiate is also legally authorized to dispense medicines, but only to those who are his own patients.—I am, dear Sir, yours faithfully,

HENRY A. PITMAN, *Registrar*.

FRANCIS HAWKINS, *Registrar of the General Medical Council*.

FORM OF LICENSE.

QUALIFICATION TO PRACTISE MEDICINE, SURGERY, AND MIDWIFERY.

"I ———, President of the Royal College of Physicians of London, with the consent of the Fellows of the same College, have, under the authority given to us by Royal Charter and Act of Parliament, granted to ———, who has satisfied the College of his proficiency, our License under the said Charter to practise Physic, including therein the practice of Medicine, Surgery, and Midwifery, so long as he shall continue to obey the Statutes, By-Laws, and Regulations of the College relating to Licentiates: in witness whereof, we have this day set our seal and signatures. Dated at the College, the — day of —, in the year of our Lord One thousand eight hundred and sixty —.

_____ } *President*.
 _____ }
 _____ } *Examiners*.

"I certify that ———, to whom this License has been granted by the College, and whose signature is subjoined, has been duly admitted to practise Physic as a Licentiate of the College, and that such License is a legal authority to him to practise Medicine, Surgery, and Midwifery, and to dispense medicines, but only to those who are his own patients.

"Licentiate _____

"Registrar _____"

On the motion of Dr Andrew Wood, seconded by Dr Acland, the standing order was suspended; the Council to meet on Monday at one o'clock.

(To be continued.)

GRADUATION IN MEDICINE AT THE UNIVERSITY OF EDINBURGH.

LIST OF CANDIDATES who received the Degree of Doctor of Medicine, the Degree of Bachelor of Medicine, and the Degree of Master in Surgery in the University of Edinburgh, on Monday, August 2, 1869.

*** *Those who have obtained Prizes for their Dissertations.*

** *Deemed worthy of competing for the Dissertation Prizes.*

* *Commended for their Dissertations.*

Candidates who received the Degree of Doctor of Medicine under the New Statutes,

With the Titles of their Theses.

*Affleck, James Ormiston, Scotland, M.B. and C.M., 1867. On Functional Disorders of the Heart.

Anderson, David Hawley Burn, Scotland, M.B. and C.M., 1866, when he gave in a Thesis on the Action of Remedies.

Bent, John Francis Vincent, England, M.B. and C.M., 1866, when he gave in a Thesis on Diphtheria.

Campbell, Charles Moss, India, M.B. and C.M., 1867. On Syphilis.

- 5 Colladon, Henri Louis (M.A. Geneva), M.B. and C.M., 1867. Some Considerations on the Therapeutics of Cutaneous Diseases.
- ***Haddon, John, Scotland, M.B. and C.M., 1867. The Sphygmograph and Thermometer in Health and Disease.
- Haughey, Alexander Richardson, Ireland, M.B., 1866, when he gave in a Thesis on Asthma.
- Holden, Charles, New Brunswick, M.B. and C.M., with Honours, 1867. On Reflex Action.
- Hunter, George, Scotland, M.B. and C.M., with Honours, 1867. Observations on certain forms of Disease met with in General Practice.
- 10 Hunter, William Brown, Ireland, M.B. and C.M., 1866, when he gave in a Thesis on Hygiene.
- Kirkwood, John, Scotland, M.B. and C.M., 1867. On Pneumonia.
- **Lightfoot, Robert, England, M.B. and C.M., 1867. Carbolic Acid clinically considered with special reference to its Antiseptic Properties as compared with those of Quinine.
- Lowe, George May, England, M.B. and C.M., with Honours, 1866, when he gave in a Thesis on the Structure, Relations, and Functions of the Ligamenta Rotunda Uteri. On the Diagnosis and Treatment of the Retained Menses. On the Occurrence of a peculiar Crystalloid Substance in a certain form of Dilatation of the Bronchi.
- Macbeth, John (M.A. Edin.), Scotland, M.B. and C.M., with Honours, 1866, when he gave in a Thesis on the Influence of the Nervous System on Nutrition.
- 15 MacDonald, Alexander Dall, Scotland, M.B. and C.M., 1867. On Rheumatism, Articular and Muscular, more especially as regards their Visceral Complications.
- MacRae, John, Scotland, M.B. and C.M., 1867. On Counter Irritation.
- Malins, Edward, England, M.B. and C.M., 1866, when he gave in a Thesis on Fatty Degeneration of the Placenta.
- Munro, William, Scotland, M.B. and C.M., 1866, when he gave in a Thesis on Moral Insanity with especial reference to its Manifestation as Kleptomania and Dipsomania.
- Nicholson, Henry Alleyne, England (D. Sc. Edin.), M.B. and C.M., with Honours, 1867, when he gave in a Thesis on the Geology of Cumberland and Westmoreland.
- 20 Pullar, Alfred, Scotland, M.B. and C.M., 1866, when he gave in a Thesis on Glaucoma, its Nature and Treatment.
- Ramsay, James (M.A. St And.), Scotland, M.B. and C.M., with Honours, 1866, when he gave in a Thesis on Syphilization and the Syphilitic Virus.
- *Ritchie, Christopher Currie, Scotland, M.B. and C.M., with Honours, 1867. On Keratitis and other Diseases of the Cornea.
- Steven, Alexander, Scotland, M.B. and C.M., 1866, when he gave in a Thesis on Angina Pectoris.
- Stolterfoth, Henry (M.A. Cantab.), England, M.B. and C.M., 1866, when he gave in a Thesis on the Influence on the Mental Faculties, both as a Cure and Cause of Disease, received the Degree of M.D. on 31st October 1868.
- Weddell, James Call, Berwick-upon-Tweed, M.B. and C.M., 1867. On the Utilization of Sewage.
- 26 Wigg, Henry Carter, Australia, M.B., 1866, when he gave in a Thesis on the Physiological Action of Nitro-Benzole.

Candidates who received the Degree of Doctor of Medicine under the Old Statutes,
With the Titles of their Theses.

Grant, Alexander (M.A. Aberd.), Scotland. Two Propositions on Public Hygiene.

.... Ross, Donald, Scotland. On the Signs and Symptoms of Pregnancy.

- Stephenson, Thomas Appleby, England. On Retinal Apoplexy.
 ***Strachan, John Miller, England. The Histology and Functions of the Cerebellum.
 5 Walker, Josiah William, England. A case of Diabetes, with Notes on its Pathology and Treatment.

Candidates who received the Degrees of Bachelor of Medicine and Master in Surgery.

Large Capitals indicate that the Candidate has passed the Examinations with First Class Honours.—Small Capitals indicate that the Candidate has passed the Examinations with Second Class Honours.

- AMSDEN, GEORGE, England.
 Bartholomeusz, Matthew Lorenz, Ceylon.
 Begg, Alexander Henderson, Scotland.
 Bennett, Alexander, Scotland.
 5 Bennett, Thomas Marshall, England.
 Brebner, George Keith, Scotland.
 Campbell, William Macfie, Scotland.
 Cleaver, William Jackson, England.
 Cook, Henry David, India.
 10 Davies, Francis Pritchard, Wales.
 Ewart, John, England.
 Hirschfeld, John Charles, Isle of Man.
 Hollis, Alfred, Isle of Wight.
 Kriekenbeek, Charles John, Ceylon.
 15 Law, Alfred Roberts, England.
 Lorimer, George (M.A. Edin.), Scotland.
 Mackenzie, Gilbert Proby, British Guiana.
 Miller, Henry, England.
 Moodie, Robert, Scotland.
 20 Munro, Æneas, Scotland.
 Naismith, William John, India.
 Nicholson, Francis Cobham, Melbourne, Australia.
 PITCAIRN, GEORGE KINCAID, Scotland.
 Pranker, Orlando Reeves, England.
 25 Pritchard, Urban, England.
 Reid, Adam Scott, Scotland.
 Roberts, David William, Wales.
 Robertson, John Allan, Scotland.
 Sayer, Thomas, England.
 30 Scott, William Gifford, India.
 Sinclair, Alexander James, Scotland, received the Degrees of M.B. and C.M. on 31st October 1868.
 Smith, Robert Mitchell Horne, Scotland.
 Smyth, Edward, Scotland.
 Stewart, Charles, Scotland.
 35 Thomas, Alfred, England.
 Thompson, Edwin, England.
 Thomson, James Archer, England.
 Waugh, George, Scotland.
 39 Zorab, John Manuk, India.

Candidates who received the Degree of Bachelor of Medicine.

- BRAMWELL, BYROM, England.
 Chalmers, Thomas Dodson, England.
 Gray, Thomas Kay, Scotland.
 Rabagliati, Andrea Carlo Francisco (M.A. Edin.), Scotland.
 5 Stuart, George Ballingall, India.

ADDRESS TO DR JOSEPH BELL.

THE following Address was presented to Dr Joseph Bell at the close of the Summer Session of the Class of Clinical Surgery in the University of Edinburgh, which Dr Bell has conducted in the room of Professor Syme :—

To JOSEPH BELL, M.D., F.R.C.S.

EDINBURGH, 27th July 1869.

We, the undersigned members of the class of Clinical Surgery in the University of Edinburgh, desire, before the close of the session, to express to you our appreciation of the manner in which that class has been conducted by you during the illness of Professor Syme.

We are mindful of the peculiarly difficult position you were called upon to occupy as the substitute of one whose world-wide reputation is indissolubly associated with his position as a teacher of Clinical Surgery.

It is pre-eminently necessary that he who would discharge with approbation the duties of this Chair, be possessed of that professional knowledge, dexterity, and courage, which the careful cultivation of high talent, combined with practical experience, can alone insure. From the constitution of this class, the capabilities of its teacher can be estimated by those who, like ourselves, are students, to a greater extent and with more accuracy than in any other in the University. We therefore feel it to be as much a pleasure, as it is certainly a duty, to assure you that you have obtained our admiration and esteem, as possessing, and that in an eminent degree, those qualities which are so essential in a teacher of Clinical Surgery; and while, by the clear and forcible way in which your lectures were delivered, their subject-matter was impressed upon our memories, the hours spent in your class-room were rendered as pleasant as they have been profitable.—(Signed by forty-three students.)

UNIVERSITY OF EDINBURGH—CHAIR OF CLINICAL SURGERY.—The resignation of Professor Syme has been accepted, and the Queen has been pleased to appoint Professor Lister of Glasgow to be Regius Professor of Clinical Surgery in the University of Edinburgh.

INTERNATIONAL MEDICAL CONGRESS.—The second International Medical Congress will be held in Florence in the month of September. Dr Alfonso Bos, of Florence, is Treasurer, and will receive applications of intending members. It will be remembered that the first International Medical Congress was held in Paris two years ago.

DEATH OF DR BEGBIE, PHYSICIAN IN ORDINARY TO THE QUEEN IN SCOTLAND.—The medical profession in Scotland could not have sustained any loss more widely or profoundly felt, than that which it is our painful duty to announce. Dr Begbie, who had been suffering for some time past, died on the 26th August. His great reputation as a medical author and practitioner will cause this intelligence to be received with a feeling of regret by medical men in all parts of the world. But in Edinburgh and in Scotland, where Dr Begbie has for many years occupied, with perfect acceptance, a pre-eminent position in consulting practice, his death will be mourned like a personal bereavement. The courtesy and urbanity which characterized his professional life deepen the sense of loss of his wise and skilful counsel. Necessarily limited for the present to this brief expression, it will be our duty, at an early opportunity, to give some account of the life and labours of one of the most eminent physicians of his time.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Morbid Appearances met with in the Brains of Thirty Insane Persons.* By J. B. TUKE, M.D., Medical Superintendent of the Fife and Kinross District Asylum; and WILLIAM RUTHERFORD, M.D., Professor of Physiology in King's College, London.

DURING the last four years we have examined microscopically the brains of thirty persons, all of whom had been the subjects of *chronic* insanity, in one or other of its forms. The autopsies were made within thirty-six hours after death. The specimens of nervous matter were immediately immersed in spirit, and twenty-four hours afterwards in a solution of chromic acid. The sections were in most instances coloured with an ammoniacal solution of carmine, rendered transparent by spirit of turpentine, and set up in Canada balsam or glycerine. The parts of the brain examined were the tips of the frontal and occipital lobes, the convolutions on either side of the fissure of Rolando near the vertex, corpora striata, optic thalami, cerebellum, pons Varoli, medulla oblongata, and any portion which was manifestly the seat of disease. The brains examined were those of patients whose deaths occurred consecutively, and were in no way picked on account of any peculiarity. The forms of disease under which the subjects had laboured were as follows:—general paralysis, dementia with paralysis, chronic dementia, epileptic insanity.

In every case we noticed a marked departure in one form or another from the healthy structure of the brain. And this, although only a *small part* of the brain, was examined in any case.

In our observations hitherto we have occupied ourselves almost exclusively with the detection of morbid conditions, and have only lately begun the greater work of attempting to localize the seat of disease in different cases, but as yet the materials are too limited to admit of any definite statement. The morbid appearances which we have observed are as follow:—

1. Gray degeneration or sclerosis.
2. Miliary sclerosis.
3. Holes of various sizes.
4. Changes in nerve-cells.
5. Changes in nerve-tubes and fibres.
6. Changes in bloodvessels

7. Granulations on surface of cerebral convolutions, medulla oblongata, and lining membrane of ventricles.

8. Amyloid bodies.

9. Changes in nuclei of neuroglia.

1. *Gray Degeneration or Sclerosis.*

This lesion has been observed by us in various parts of the brain. The order of its occurrence as to frequency has been—

(1.) The white matter of the corpus striatum; (2.) That of the cerebrum and cerebellum; (3.) That of the pons and medulla oblongata. In cases of epileptic insanity it was very frequently found in the last-named organ. Out of the thirty brains examined by us, we have found this lesion in eighteen instances. In nine cases the patients had been the subjects of chronic dementia, of chronic mania in three, of general paralysis in three, and of epileptic insanity in three.

When nerve-tissue, which is the seat of this degeneration, is hardened, and thin sections of it rendered transparent by turpentine are held up between the eye and the light, gray tracts of various shapes and sizes can usually be perceived by the naked eye. If, however, the case be one of recent standing, the microscope is required for their detection. The tracts, whatever be their shape and extent, are invariably less transparent and denser than the surrounding healthy tissue. Rokitsky¹ believes that the primary and essential change is an increase in the amount of the connective tissue (neuroglia) which separates the nerve-elements and vessels. Its nuclei proliferate, and the almost homogeneous matrix which surrounds these becomes distinctly fibrillated and increased in quantity, so as to press upon the nerve-tubes, and cause their atrophy and disintegration; these break up into fatty particles, and often form colloid bodies. Leyden,² however, considers that the increase of connective tissue is more apparent than real. He believes that the first change is atrophy of the nerve-tubes, and that, on account of the disappearance of these, the fibrous matrix in which they are embedded appears to be increased. According to Friedreich³ the place of the nerve-elements is taken by a delicate fibrous tissue, the fibres of which do not, however, lie free, but are embedded in a gray granular substance, in which, after the addition of acetic acid, round or oval nuclei, each containing from two to four nucleoli, may be seen. In a case of sclerosis of the posterior columns of the spinal cord, in which the

¹ Über Bindegewebswucherung im Nervensystem. Sitzungsbericht der math: naturwissenschaft: Cl. der Wiener Akad, band xxiv. heft 1-3. Wien, 1857.

² Über graue Degeneration des Rückenmarks. Deutsche Klinik, 1863, No. 13; Canstatt's Jahresbericht, bd. iii., 1864, p. 15.

³ Über degenerative Atrophie der Spinalen Hinterstränge. Virchow's Archiv, bände xxvi. and xxvii.

first stage of the morbid change was seen, Charcot and Bouchard¹ observed an amorphous, finely granular material, with numerous "myelocytes," amyloid bodies, and proliferated nuclei in the walls of the capillaries. In the opinion of Rindfleisch² the following are the morbid changes which constitute gray degeneration: (1.) The nuclei in the walls of the capillaries and larger vessels proliferate; this he regards as the starting-point. (2.) The nuclei of the neuroglia around the vessels proliferate. (3.) A quantity of molecular matter accumulates around these proliferated nuclei of the neuroglia, so as to give rise to the appearance of nucleated cells similar in appearance to the many-nucleated elements of the marrow of bones, as described by Robin and Kölliker. (4.) The perinuclear plasm and the matrix of the neuroglia undergo transformations, which result in the production of cell-like bodies, with numerous delicate fibrous processes. The atrophy of the nerve-elements Rindfleisch ascribes to interference with their nutrition, resulting from the changes in the vascular walls.

We have observed this lesion only in the *white matter* of the brains examined by us. As to the nature of the morbid change, our observations lead us to agree with Rokitsky in regarding it as primarily a modification of the connective tissue. In the spinal cord, medulla oblongata, and pons, it appears to us that the connective tissue or neuroglia is a nucleated, finely-fibrillated structure. In the cerebrum and cerebellum, however, we have not been able to see anything more than a nucleated transparent homogeneous non-fibrillated matrix, representing the fibrillated connective tissue of the spinal cord. Owing to the extreme fineness of the nerve-tubes of the white matter of the brain, as compared with those of the spinal cord, an inquiry into the diseased conditions of the white matter of the former is much more difficult than in the case of the latter; but a careful inspection of numerous finely-prepared sections by means of a magnifying power of 800 diameters linear (Hartnack's immersion lens No. 10, eye-piece No. 3) has resulted in the demonstration that fibrillation and increase of the neuroglial matrix, together with proliferation of its nuclei, are the essential changes in gray degeneration, as Rokitsky³ has already pointed out. Sometimes proliferation of the nuclei precedes fibrillation of the matrix, at other times the converse holds good. Sometimes there is a marked proliferation in the nuclei of the capillary walls in the diseased tracts, but we have not been able to confirm Rindfleisch's⁴ observation that the diseased process invariably starts from these. Indeed, our specimens show that the morbid change just as often begins at a distance from, as in the immediate

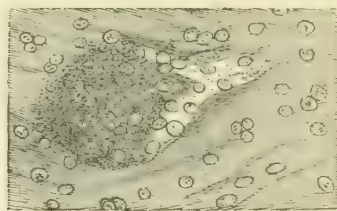
¹ Gazette Médicale, 1866, No. 7, quoted in Centralblatt für die Med. Wissenschaften, 1866, p. 268.

² Rindfleisch, Histologisches Detail zur grauen Degeneration von Gehirn und Rückenmark. Virchow's Archiv, band. xxvi.

³ Rokitsky, *loc. cit.*

⁴ Rindfleisch, *loc. cit.*

neighbourhood of, the vessels. Regarding the fate of the nerve-tubes in the diseased tracts in the white matter of the brain, our observations, owing to the fineness of these elements, scarcely enable us to speak with confidence. They *appear*, however, to undergo atrophy, and this need scarcely be doubted, seeing that they certainly do so under similar conditions in the spinal cord. We have seen no evidence of the production of fatty particles from the wasted tubes in the brain. Colloid bodies sometimes appear in degenerated tracts, but these are not of frequent occurrence. In one case we found a lesion which appeared at first sight to be ordinary gray degeneration, such as we have described, but which, on careful examination, proved to be a lesion not hitherto described. In the specimens in our possession it forms patches or spots, one of which is represented in the woodcut. They are sometimes close to, at other times somewhat distant from, the vessels.



Section of corpus striatum, showing a patch in which the nuclei of the neuroglia are proliferated, and surrounded by molecular material. A vessel is seen near the spot. $\times 300$ diam.

Everywhere throughout the section, the nuclei of the neuroglia, and those of the vascular walls, have undergone marked proliferation. The proliferation is, however, especially marked in the spots, and these are embedded in a semi-transparent, finely-granular material which takes the place of the fibres in gray degeneration. The granular material is not arranged around the nuclei so as to form cell-like masses, so that this lesion does not present the characters of gray degeneration, as described by Rindfleisch.¹ It differs from gray degeneration inasmuch as the proliferation of the nuclei of the neuroglia is more marked, and granular material is formed instead of the fibres which are characteristic of gray degeneration or sclerosis. The granular material appears to result from some transformation of the neuroglial matrix, and perhaps the nerve-tubes also. It takes the place of these elements, not because it pushes them aside as if it were proliferated and pushed out from a centre, but as if it resulted from some transformation of them.

It may be, that this is a variety of gray degeneration. We were inclined to suppose that MM. Charcot and Bouchard² had already seen it. We, however, took the precaution of showing it to the

¹ *Lib. cit.*

² *Lib. cit.*

former of these gentlemen, and ascertained that he had not previously seen the lesion.

2. *Miliary Sclerosis.*

We propose the above title for the lesion elaborately described by us in the number of this Journal for September 1868. We would guard the reader against the assumption that this term indicates that this is a form of gray degeneration (the sclerosis of French writers). We adopt the term because it simply indicates rounded hardened patches.

It consists of semi-opaque whitish spots resembling very small millet-seeds. They vary in size from 1-40th of an inch downwards, and, like gray degeneration, and the lesion we have just described, are almost confined to white nerve-matter. When this lesion is far advanced in its development, the spots are readily discernible with the naked eye. They consist of semi-opaque molecular material lying amid a few exceedingly delicate colourless fibres. The lesion is due to the formation of cell-like masses of molecular material, in each of which a nucleus is sometimes discernible. By the formation and growth of these cell-like bodies, the nerve-tubes and bloodvessels are pushed aside, and these may in consequence be seen curving round the diseased tracts. We have not yet been able to decide as to the origin of the cell-like masses. They certainly do not originate in the nuclei of the vascular walls. More probably they originate in the nuclei of the neuroglia. We thought at first that this lesion is that described by Rindfleisch¹ as gray degeneration; but he says that the nuclei of the neuroglia first proliferate, and then molecular material appears around each nucleus, and with the molecular material are connected numerous delicate fibres. The lesion described by us differs from that mentioned by Rindfleisch, inasmuch as no proliferation of the neuroglial nuclei can be seen in the first stage of its development. A *single* molecular cell-like body making its appearance first of all, it may be that it results from a transformation of a neuroglial nucleus. Other cell-like bodies make their appearance, these resulting from division of the first, or arising close to the first one by a process similar to that which gave it origin. Fibres are not connected with the cell-like masses, nor is there any increase of the connective tissue or neuroglia—a fact which at once distinguishes it from gray degeneration, as described by Rokitsansky and by Rindfleisch.

We must refer the reader to our drawings and description of this lesion in this Journal for September 1868. When we described the lesion a year ago, we had met with only one case in which it was found. It occurred in a case of atrophy of one-half of the cerebellum. The lesion was found in the white matter of the cerebellum. Since then we have met with it in five out of the thirty cases examined

¹ *Lib. cit.*

by us. We have found it in the white matter of the convolutions in four cases, and in the white matter of the cerebellum in the case already referred to. Dr Kesteven¹ has noted a case in which he observed this lesion in the medulla oblongata.

It may be well to mention that this lesion is not the same as that described by Dr Lockhart Clarke² under the title of "transparent granular degeneration." In that degeneration *transparent granular spots* are found. We have shown our preparations to Dr Clarke, and he agreed with us in regarding the lesions as essentially different.

3. *Holes.*

We have observed holes of sizes varying from the 1-50th of an inch downwards. These have only been observed by us in the white matter of the brain. We have most frequently seen them in the corpus striatum, but have also found them in the pons Varolii and the white matter of the convolutions. These holes have ragged edges owing to the abrupt termination of nerve-elements at their margins. The various elements of the brain look as if they had been eaten away. In our sections, which have been hardened in a solution of chromic acid, and set up in Canada balsam, the holes are quite empty. No doubt they are filled with some matter during life, but we are as yet unable to say anything regarding its nature. Nor can we pronounce any definite opinion as to the mode in which these holes are developed. Probably they are due to a disintegration of nerve-tissue, the results of which are removed by the solution employed in hardening the tissue. These holes are quite different from those recently described by Dr Lockhart Clarke at the meeting of the Medico-Psychological Association, held at York (August 1869), inasmuch as they have no apparent connexion with bloodvessels, and are manifestly due to a solution of the continuity of nerve-elements, as is evident from the ragged character of their walls.

It is well known that where portions of the central nervous system have been macerated in spirit for a long time, holes with ragged edges are formed, due to the action of the spirit. In this case the holes contain numerous crystals and broken-up portions of nerve-tissue, which were not discernible in the holes just described. Moreover, we have observed these holes in brains hardened in a chromic acid solution. In our experience, this hardening agent does not cause a solution of nerve-tissue, even when it is macerated in it for at least two years.

4. *Changes in Nerve-cells.*

Atrophy of the pyramidal cells of the convolutions of the vertex

¹ Brit. and For. Med.-Chir. Review, April 1869.

² On Tetanus, Medico-Chirurgical Transactions, vol. xlvii., 1866, p. 264.

has been observed in three cases. They had shrunk to at least one-eighth of their normal size, but presented no appearance of granular degeneration.

The pigmentary degeneration of nerve-cells, described by Van der Kolk, Meschede, and others, was likewise frequently observed in the pyramidal and other cells of the cerebral convolutions in the cells of the corpora striata and the corpora dentata of both cerebellum and medulla oblongata. The name of *fuscous degeneration* is suggested as definite and in accordance with its characteristics. Generally the reddish-brown granules appear first at the nucleus, and in such cases the nucleolus has been observed as a black spot. They gradually extend to the periphery of the cell, implicate the processes, and at last nothing but a granular reddish-brown, somewhat angular mass remains to mark the position of the original cell. In some cases this mass has been found larger than the cell which it represents. These changes have been observed both in fresh and prepared brains, and are easily demonstrable in either condition. The cells of the cellular layer of the cerebellum have never been observed to have been the seat of abnormality.

In certain cases the nerve-cells have been noticed surrounded by clear spaces. Although it is impossible to say whether this appearance is morbid or not, it is thought worthy of mention.

5. *Changes in Nerve-tubes.*

Atrophy of the tubes was frequently observed. In a case of chronic dementia, complicated with chorea, the nerve-tubes of the anterior and posterior roots of the spinal nerves were found to have undergone a pigmentary degeneration similar to that noticed in the cells, and to which allusion has just been made.

6. *Changes in Bloodvessels.*

Fatty degeneration of the vessels of the pia mater and cerebrum was very frequently observed, more especially near their bifurcation. In general paralysis, tortuosity and aneurismal dilatation of capillaries were almost constantly present. On the walls considerable proliferation of neuroglial cells and deposits of hæmatoidin were not unusual. Marked dilatation of the perivascular canals was observed in the case of paralytic dementia, the immediate cause of whose death was apoplexy. All the canals of the vessels of the cerebrum which were examined were much dilated, the vessels lying distinctly on one side, as if adherent. The difference between the calibre of the vessel and canal varied from 1-8th to 1-12th. The space was clear of any organized contents. As far as we are aware, this condition of the canals has not yet been described.

7. *Granulations.*

Granulations of the lining membrane of the ventricles, which have

been described by Dr Lockhart Clarke¹ and others, of the pia mater of the parietal and occipital lobes, and of the medulla oblongata, were observed in many cases of general paralysis, and old standing mania and dementia. In whatever portion of the brain they occurred, they closely resembled each other, and were evidently the result of changed epithelium. In the more recent cases they resembled villi, and were semi-transparent. In the oldest, they presented the appearance of rough irregular nodules on the free margins, the epithelial cells being noticeable on their extreme outer edge. They seemed to contain a homogeneous substance, and as this substance has been seen to extend some distance into the brain matter, it is probably exuded lymph, which has raised up the superjacent epithelial layer. As yet we believe these granulations have only been noticed on the floors of the ventricles, but many sections in our possession demonstrate their existence on the surface of the posterior and parietal convolutions and medulla oblongata.

8. *Amyloid and Colloid Bodies.*

These bodies were seldom absent from the brains of old-standing cases. There appeared to be two kinds of bodies, one of which was readily dyed by carmine, while the other remained unaffected thereby after being submitted to its influence for many hours. The latter were also larger, some of them being ten times, the former never exceeding twice, the size of a human blood-corpuscle. These smaller coloured bodies we have alluded to as "amyloid," and the larger and uncoloured as "colloid," without reference to theory, simply for the sake of distinction between them. The *amyloid* bodies have been found chiefly on the surface of the convolutions, medulla oblongata, and spinal cord, held down by the pia mater. Occasionally they were found in the brain substance. A very frequent seat is the posterior longitudinal fissure of the medulla oblongata. We have failed in obtaining any reaction from the application of iodine, and the existence of concentric rings is doubtful. In a case of locomotor ataxia, the atrophied posterior columns of the cord were represented by an immense aggregation of these bodies.

The larger and uncoloured bodies are more frequently met with in the substance of the brain. They are observable in both gray and white matter. Virchow holds that one or other or both of these bodies are normal, or, at least, the result of natural decay. But the fact that they are more common in the brains of the insane than the sane, and the immense numbers in which they occur, suggests that they are actual morbid products.

9. *Changes in Nuclei of Neuroglia.*

In some cases we have observed a diminution in the number of these bodies; proliferation is, however, more common. The pro-

¹ Beales's Archives, vol. iii.

liferated nuclei form either in rows or clusters. There are usually three or four in a cluster, but in one instance we observed as many as twenty in one group. The bodies which result from the proliferation closely resemble the original nucleus; like it, they are coloured by carmine. This proliferation is doubtless the result of irritation. When it is very decided the whole nerve-substance has an unusually granulated and cloudy appearance. In connexion with this subject it is necessary to guard against a somewhat misleading appearance presented by very transparent thick sections; in such the nuclei appear as if increased in number, although really they may have undergone no multiplication.

In conclusion, we beg to offer the opinion that these morbid appearances are only the more crude and apparent pathological changes which are yet to be demonstrated in the brains of the insane. Thanks to the earnest and fruitful labours of Lockhart Clarke more especially, we are now in possession of great facts as to the normal structure of the brain. This great histologist has enabled us to differentiate between the structure of the various convolutions; he has laid open many of the hitherto secret communications of the cerebro-spinal nerves; and the knowledge which he has so freely given to the world places it within the reach of the pathologist to recognise morbid from healthy structure. It is to be hoped that soon he will place the most important anatomical observations of this generation within the reach of all students.

There is still much to be overcome ere a definite opinion can be given as to the nature of the neuroglia and its morbid changes. In this lies the main difficulty; so also, in a less degree, with regard to nerve-cells and nerve-fibre. Patient and continuous observation of morbid brains must be undertaken. Experimental physiology must conjoin with pathology to reduce to logical deduction our knowledge of the functions of the various organs of the brain. After the mere examination of pathological changes has been pushed to its utmost extent, the greater task of localizing the lesions still remains to be accomplished. To this end the most careful record of facts by a host of witnesses is necessary. It is no good to follow in the old rut of naked eye observation. Nothing but the most careful microscopic dissection can serve to bring to light the secrets still unknown. The foot-rule and the pound-weight must give way, and elaborate research, assisted by finer and more accurate instruments, must be brought to bear upon this most important subject. When we know that the arrangement of the layers of the gray matter of the occipital convolutions differs from that of other parts of the encephalon, and that the pyramidal cells of the parietal lobes have an arrangement peculiar to themselves,—when the nerves have been traced to their ultimate origins, and their close relationship demonstrated,—the fallacious crudities of the pathological theatre must be things of the past. We are entering on a new era of cerebral pathology.

We are far from regarding the morbid appearances we have here described as the *causes* of insanity. It is much more than likely that they are the results of weakened or perverted evolution of energy of the nerve-plasm. Nor do we regard these lesions as confined to cases of mental insanity, for we are well aware that certain of these morbid appearances occur in subjects where the insanity has only affected the muscles, and where the mental faculties have remained unimpaired. We believe that the exhausting influences of painful disease, long-continued anxiety (which in itself is not far removed from disease), or old age, may cause many of the degenerations which have here been mentioned, without the manifestation of abnormal mental symptoms—old age, more especially. Let one instance be brought forward—that of Dr Whewell, late Master of Trinity. He worked up to within a few days of his death at the most abstruse subjects; dissection showed great general atrophy of the brain-substance, with a compensatory amount of serum, atheromatous arteries, etc. Now, had this philosopher been the subject of hereditary predisposition to insanity, or had he been liable to the worrying anxiety of the work-a-day world, it is more than probable that he would have evinced greater symptoms of mental aberration than in him were apparent. This case is instanced only to show how very narrow is the neutral ground between mental and physical insanity. It still lies open for demonstration what morbid appearances may be presented in cases of recent and acute mental insanity. The opportunities offered for observation are comparatively rare. Should the microscope fail in detecting any abnormalities in such cases, we must come to the conclusion that the molecular changes are beyond our ken. But we hold that it is of no mean importance that, in so long a series as thirty cases of various forms of chronic insanity, actual morbid changes in structure have been demonstrated. We trust that it will tend to place mental insanity in its proper position as a bodily disease and a pathological entity.

ARTICLE II.—*Case of Amputation at the Ankle.* By JOHN DUNCAN, M.A., M.D., F.R.C.S.E.

A RAILWAY workman named Brown, æt. 22, had his foot crushed at Berwick by the passage of a waggon over it on the 2d of May. He arrived in Edinburgh at six in the morning, when I was requested by Dr Inglis to remove the foot. It was Sunday, and I had only silk at hand, so, after amputating by Syme's method, I ligatured five vessels. The edges of the wound were accurately and closely stitched with deep sutures, and a sponge was applied over the flap, with a little pressure to stop oozing. The sponge was removed in a few hours, and for seventeen days thereafter the stump

lay untouched and unmoved. During that time there was not a drop of pus. I then removed two ligatures which hung from one side, and their apertures at once healed. Three at the other side resisted firm traction. Next day a little redness surrounded them, and for a week about ten minims of pus daily exuded. This ceased, and in the fifth week after amputation I forcibly removed two of the ligatures, and broke the third in the attempt. Slight redness followed, but disappeared under twelve hours' irrigation.

In all, not two teaspoonfuls of pus were formed. The patient was out of bed in three weeks, and at the end of five, could put the weight of his body on the stump.

The attention of surgeons has of late been much directed to the healing of wounds by primary union. Acupressure, for example, and the carbolic acid treatment have for their object the removal of certain impediments to the process. Whether it be better to use needles removable in twenty-four hours, or to leave a form of ligature permanently in the tissues, is yet *sub judice*; but it is of importance that we do not overlook the part which perfect rest plays in producing the successful result. It is difficult to resist the tendency to ascertain how things are going on, to make the position easier for the patient, or, in short, to meddle with other laudable but pernicious motive. Very little is hurtful friction to a wound, very little breaks down recent adhesions. One advantage of acupressure is that you have no ligatures to pull at—of catgut, that you have no needles to remove. The success of the case related was due plainly to non-interference; and I have thought it worthy of notice, because primary union is rare in the ankle-joint amputation, and because it illustrates at once the innocuousness of silk, and the hurtfulness of the necessary traction.

Nor is this result unusual. I removed an adenoid tumour larger than a turkey's egg from the parotid gland in a patient of Dr Weir's. Torsion was used, but absolutely no dressing. It left, as is usual, a considerable and somewhat unyielding cavity; yet the wound healed without suppuration, because the head was kept motionless for some days. Not long ago I excised in one day two scirrhus mammae, using acupressure in one, silk ligature in the other. A few drops of pus followed for a day or two an attempt to remove the ligatures made on the eighth day. The other breast healed by primary union. Both patients were kept motionless and untouched. Such results are, of course, by no means invariable; but I think I may say, that of cases capable of primary union, the majority of those which have not so united have been prevented doing so, either by the restlessness of the patient, or my own not always necessary interference.

In these circumstances, it seems not uncalled for, although it is not novel, to insist on the importance of rest; for the conclusion of the whole matter seems to be, *first*, that everything necessary for the comfort or convenience of the patient ought to be arranged at

the time of operation ; and, *second*, that acupressure, catgut, carbolic acid, produce good results, mainly by favouring, or perhaps rather in so far as they favour, the absolute immobility of the part.

ARTICLE III.—*Actual Experience in Hospital Practice of Recently Vaunted Remedies.* By D. M'GREGOR, L.R.C.P. & S. Ed.; late Medical Superintendent, Barnhill Hospital and Asylum, Glasgow, now of Penrith.

THE institution with which I have been connected for the last three years and a half¹ consists of the workhouse, hospital, and asylum of a parish (Barony), the population of which is 180,000. The average daily number in the house for several years past is upwards of 1000 ; while in the winter six months of each year the numbers were 1200, and sometimes even 1300. Of the entire number in the house there were nearly always an average of 350, male and female, of whom 150 were insane, under constant medical treatment. All forms of disease, mental and physical, usually met with amongst the poor of this country were from time to time dealt with, so that a very considerable field was open for the putting to a practical test the various means of relief or cure of disease ever and anon suggested by members of the profession. Of this opportunity I always availed myself, by testing every remedy recommended either by the eminence of its advocate, or by the strong array of evidence in its favour.

I can only refer in the meantime to a few of the most popular of these ; and as I fear it would occupy too much of the valuable space of this Journal to give notes of cases in detail without being of greater practical advantage to its readers, I hope it will prove equally satisfactory to state, in a general way, my experience of the remedies referred to, giving cases in illustration as I go on, stating nothing but facts carefully observed, as tending to the conclusions I have arrived at.

The remedies I have selected for comment are the following, and I give them alphabetically, without regard to whether they belong to the department of the Physician or the Surgeon :—

Acupressure.
Acetic acid injections in cancer.
Bromide of potassium in epilepsy.
Blistering in acute rheumatism.
Carbolic acid.
Ether spray or local anæsthesia.
Holt's "Dilator" for stricture.
Iodide of potassium in syphilis.
The "sulphur cure."

¹ The present article was written from my notes in March 1868, when I had resigned my connexion with the above Institution.

Although *Acupressure* happens to be the first subject on my list, it is perhaps the one of all the others I have had least experience in, owing to the comparative rarity of surgical operations requiring such means of arresting hæmorrhage occurring in workhouses. Yet I have had occasion to perform during the period referred to a considerable number of what are termed "capital operations," embracing amputations of the middle and lower third of the thigh, at the knee-joint, upper third of leg, and at the ankle, and others. During my college days I was accustomed to see nothing else than the ligature used, and I confess I felt rather timid when, two years ago, I ventured in an amputation below the knee, on employing the needle for the first time. But the success was so marked, and the recovery of the patient so rapid,¹ that I have since felt no compunction in using acupressure in preference to the ligature when I could do so. There are cases, however, in which I find some difficulty in using it; as, for instance, in a Syme's amputation at the ankle-joint I did recently, in which the tissues were so flabby and loose that I failed to arrest the hæmorrhage by the needle, and was obliged to resort to the ligature. But this was owing chiefly to the only needles I had at hand being too short to grasp a sufficient twist of the tissues, and then be turned over the arteries. There are cases, on the other hand, in which the ligature cannot be used, and in which, therefore, the superiority of the needle is undoubted; as in a case of cancer involving the angle of the mouth, with the upper and lower lips for some distance, I operated on lately. In order to remove the disease effectually, I was obliged to cut well into the cheek, a proceeding followed by profuse hæmorrhage, which I found impossible to arrest, either by torsion, pressure, or the ligature. Nothing could be got hold of that a ligature could be applied to, and I passed a needle from without, right through the cheek, turned it round the bleeding point, and out again through the cheek on the other side. This at once stopped the hæmorrhage, and did not prevent my sewing-up the cheek as I would otherwise have done. In short, though my practice in acupressure has been but very limited, it has been enough to convince me of its great advantages over the ligature, in most cases at least.

I come now to *Acetic Acid in Cancer*.

My experience of this means of treating cancer extends to one case only—a case of scirrhus of the breast of a female, and as it appeared already in detail in the *Glasgow Medical Journal*, I will only say here, that after giving it every chance and using every precaution in its favour, in what I considered a favourable case for it, the result was a signal failure,—worse than failure, for I am sure it did harm by hastening the fatal issue. Though several other cases of cancerous disease came under my care since, there were none of them in which I could feel justified in interfering by acetic acid injections; but the acid in a diluted form was applied to the broken

¹ The stump was quite healed in thirteen days.

surfaces with the advantage of lessening pain and giving considerable relief. This, I found, however, could be done by several other agents as well as by acetic acid.

Bromide of Potassium in Epilepsy.

Between the asylum and other parts of this house, there are always a considerable number of epileptics, and I took advantage of this by using the bromide extensively in their treatment. I have had, indeed, considerable experience in its use, and feel I can write with some authority on this subject. While I state at once the conclusions I have come to regarding it, I will refer afterwards to a few cases in point. I never yet have been able to *cure* a single case of epilepsy by this drug; yet I have found it a most valuable agent in its mitigation and relief. Nay, I have in several instances kept the disease quite under control while its administration was continued. But however long this might have been done, on its withdrawal, or soon after, the dread disease reappeared, not with such violence at first, but increasing in severity as the time from the discontinuance of the bromide increased. The dose in which I usually prescribe it is a scruple three times a day to begin with. This I increase, if need be, by increasing the number of times a day in which it is given, till, in some very bad cases, a scruple is administered every two hours. Except in two cases, I do not remember of having seen bad effects from it. In these a papular rash appeared on the face, with heat and itchiness, more particularly on the nose; and in one case diarrhœa was caused by it. The first two cases in which I noticed marked beneficial effects from its use were a female inmate of the asylum, aged about forty, suffering from delusional insanity, with severe epilepsy; and in a young woman of eighteen, not insane, but becoming silly and demented by the violence and frequency of her fits. In both cases, the fits were very severe, occurring in the girl one to six times almost every day for some time before coming under treatment, and in the woman two or three times a day, but only periodically, lasting about a week at a time, generally at the monthly periods. The effect of the bromide on the young woman was distinctly noticed a few days after its exhibition. The fits became more seldom, and when they did come they were not so severe, lapsing soon into mere nervous tremors and confusion of intellect, with giddiness in the head, instead of convulsions and unconsciousness. Ultimately they ceased altogether, on a scruple dose thrice daily. The medicine was continued a couple of weeks further, while the patient improved in health and strength. In order to ascertain now the effect of stopping the medicine, it was discontinued; but in a few days the fits began to appear again, at first with slight tremors, then transitory moments of unconsciousness, with little or no spasm, but gradually becoming worse and worse until the bromide was again resumed. To make sure that this was not due to circum-

stances independent of the drug, such as a periodic character of the fits, the recurrence of the monthly illness, or errors of diet, etc., I had the patient kept a long time in hospital under observation, while the drug was administered for periods varying in duration, with the avowed object of baffling any accidental circumstance that might be supposed to influence the fits other than the bromide. The most rigid attempts to deprive the bromide of the credit due to it quite failed, and it was acknowledged on all hands as completely holding the disease in abeyance when regularly taken. The patient herself was so convinced of this, that she begged to be allowed its continuance, when I purposely withheld it as an experiment. Ultimately, I continued it for many months; but between severe attacks of diarrhoea, necessitating now and again its discontinuance, and the fits which would immediately take advantage of its withdrawal, and debility, the poor patient, Grace Edgar, gradually sank. In the case of the other woman referred to, I was never able to stop the fits entirely, but it was distinctly proved that they were much less severe, and instead of lasting a week at a time, they generally ceased in from one to three days.

For some time back two men, epileptic inmates of the asylum, have been on the bromide. One of them, before beginning the medicine, seldom passed a day without a fit, and often had half-a-dozen in the day. The other had them only about once a week, nearly always in the night-time, having several during the same night. Both men, now, will not rest satisfied without the bromide, and seldom have a fit if the medicine be regularly administered. But on withdrawing it lately, it was evident that the mischief was not removed in either case, so it is again resumed in an increased dose. There is a female, aged twenty-one, at present under treatment in the hospital. On her admission, six weeks ago, she presented a most miserable appearance. She also was becoming quite silly and demented by the frequency and severity of her fits. Hardly an hour passed, day or night, but she had an epileptic seizure, and it was impossible she could long withstand it, had relief not been given her. In her case the fits had a peculiar effect. As soon as seized, she would roll out of her bed on to the floor; but instead of rolling away from the bed, she continued to roll round underneath it, till she would make her appearance at the other side. The first description I had of these attacks led me to believe them more choreaic than epileptic, but subsequent observation convinced me that this was not the case. She was put upon a scruple of the bromide every four hours. The very next day she was slightly better, and continued to improve until the fits entirely left her, and continued for three weeks without a single attack, while she rapidly gained mental and physical health. She assured me that since she was thirteen years of age she was never more than two days at a time without a fit. At the end of the three weeks, however, as if the bromide was losing its effect, the fits reappeared,

when I at once increased the dose to thirty grains, with the effect of again stopping them. This was fully a week ago, since which she has continued quite well, and is still taking the bromide. I could refer to many other instances in which the beneficial effects of the bromide of potassium were well marked, but consider it unnecessary, as it would chiefly be a repetition of what I have already said on the subject. I have given the preparations of silver and zinc a fair trial in epilepsy, but never found the slightest benefit from them; and though I have not succeeded in actually curing the disease by the bromide of potassium, probably because my cases were not subjected early enough to its influence, yet I am thankful to have an agent I can so much depend upon in alleviating the sufferings of those afflicted with this most dreadful disease.

Blistering in Acute Rheumatism.

In a former number of this Journal, while writing on another subject, I took occasion to state that, in all cases of acute articular rheumatism coming under my care, I applied fly-blisters to all the joints chiefly affected, with the best results. I would only say of it now, that a more extended experience of this practice confirms the opinion I then expressed, that no remedy I have yet seen used produces so speedy and effectual a relief, nor is followed by less annoyance, than this mode of treatment. Among the class of patients I have had to deal with, articular rheumatism is very common, and whether accompanied by fever or not, and however swollen or painful the joints, my regular practice is to apply at once a blister to every one of the joints seriously affected. Within twenty-four hours the relief is complete. On the removal of the blisters, linseed-meal poultices are applied over the situations so treated, for a few days, as the case may be, after which nothing more is necessary, the patient is well, so far as rheumatism is concerned; but I have noticed a greater tendency than usual to catching fresh colds after this treatment, and I therefore keep the patients longer in bed than is necessary on any other ground, to avoid this risk. Generally a few days suffice for this, depending on the state of the weather. I have had no difficulty with the urine after blistering, and I am almost certain there is less risk of the heart becoming affected by this treatment than by any other I am aware of. I cannot presume to say how or why the blistering acts so successfully in rheumatism, unless it be owing to the tendency the poison has to attack the fibrous structures of the joints, and that blistering not only determines it still further towards them, but makes way for its escape from the system in the serous discharge which follows.

It may be argued against this practice, that it is too severe and painful in itself, and would not be submitted to by higher class patients. But if the treatment be as successful among these (which I have not ascertained) as among the poor, I am persuaded that

the almost immediate relief obtained, and the rapid recovery made, are advantages not to be compared with any objections that can be urged against it.

Carbolic Acid.

Professor Lister and others have written so much and so ably on this subject, that anything I can say would be of little value compared with it. But as the subject could hardly be overlooked in treating of "recent remedies," and as I must, notwithstanding my favourable opinion of the treatment generally, take exception to some of the advantages ascribed to it, I will state my experience of its use in the various forms of disease in which I tried it. Professor Lister, if I mistake not, has stated his conviction that caries of bone may be resolved and cured, by the application of carbolic acid to the sinuses or artificial openings made to evacuate the discharge resulting from the disease. I had two cases in hospital last summer; a man aged 35, and a lad aged 16, both with caries of the dorsal vertebræ, with, in the man's case, a large chronic abscess on the left side of the spinal column, below the situation of the disease, and in the lad two such abscesses, one on either side of the spine, also, of course, below the situation of the diseased bone. Although these abscesses were free of pain in themselves, being simply reservoirs for the discharge set up by the disease adjacent, they were so large and so much in the way, that neither of the patients could lie on his back, and in both instances the abscesses were gradually increasing. With a previous strong conviction that, as a rule, no abscess connected with diseased bone should be opened if it could be avoided, I would not think of doing so here had not Mr Lister's representations of the power of carbolic acid encouraged me so much, that I determined to give it a trial. Every precaution was used according to Mr Lister's directions; the paste was prepared and applied, after the evacuation of the matter, in the manner advised by him; every care was taken, in changing the application day by day, to prevent as far as possible air from entering the wounds, by placing a bit of lint soaked in the oil and acid mixture over them while cleaning and sponging the neighbourhood. The patients were kept very quiet in bed, supported by good diet, cod-liver oil, and steel, as long as each case admitted of it. In both cases the result during the first week was encouraging; the discharge was very small indeed, certainly much less than I could have expected without the carbolic acid, and the precautions taken to exclude air. But soon after, the man began to get restless and feverish; the application of the paste became irritating and annoying to him; the skin surrounding the wound got blistered, though a linen rag was spread between it and the paste; the discharge increased, as did also the pain at the seat of disease; the vertebræ were becoming more and more prominent, and projecting at an angle; the finger, run down the spine, passed over a sharp ridge of bone which was apparent indeed to the eye; the caries was

still going on, causing absorption of the vertebræ. Severe abdominal pains, with twitchings in the legs, occasionally harassed the patient, while, with loss of appetite and want of rest, he gradually got weaker and weaker, until he died about three months after the opening of the abscess. I believe the final result would have been the same had I not interfered, and it was certainly not delayed by the treatment. I should have stated that the man was otherwise in good general health, the disease being the result rather of an injury to the spine, received some time before, than of constitutional causes. The lad, subjected to the same treatment, is still living at the time I am writing, and is yet under my care. I stated that he had two abscesses, one on each side of the spine. Of these only one was at first opened, as I thought the other might discharge itself by the same outlet, but it did not; and after some time's really successful treatment, so far as the discharge was concerned, of the first, I opened the other also, and applied the carbolic acid treatment in the same manner to it. The discharge after the first two days from both abscesses was very trifling; except a little serous-looking fluid on the dressing, it soon stopped altogether. This was certainly a triumph that could not have been expected without the carbolic acid, or some similar agent. The treatment was continued; but I am sorry to say, the disease did not discontinue its havoc on the vertebræ. The lad is now lying in bed unable to put a leg below him; a sharp projection, very painful under pressure, exists at the seat of disease; the patient is pale and emaciated; a slight discharge always oozes from the wound; an occasional attack of diarrhoea and shivering contribute to hasten the end, which, I fear, in spite of our care, is not far off. To all appearance, this boy was not so robust and strong constitutionally as the other case, yet he was free of any particular ailment other than the one under consideration, and always had a good appetite.

These two were perhaps extreme cases, and should not in so limited a number deter others from giving this remedy a more extended trial, even in spinal caries. In less serious cases, I am confident it may be depended on, even in disease of bone, when more favourably situated than in the spine, and when earlier attended to than is, except rarely, practicable among the poor. Though I doubt the possibility of arresting caries by this treatment when once thoroughly established in situations liable to frequent motion and pressure, like the spine, I am happy to be able to point to a case of undoubted caries of a rib in a boy aged 14, also with a large chronic abscess connected with it, where the carbolic acid, I believe, effected a cure. A rough notch, painful to the touch, could be felt by the finger through the skin, in the edge of one of the ribs, and the history was one of caries. The abscess, situated a little below, was opened with the usual precautions against the entrance of air, and emptied of some six ounces sero-pus. The carbolic paste was regularly applied once a day, till the discharge, which, after the

first two days, was very little, ceased; then applied every two or three days, according to circumstances. The edges of the incision granulated and contracted very soon, with the exception of a small rounded orifice, out of which oozed, for six weeks, as much thin discharge as moistened the dressing, before I ventured to stop the application of the paste. This patent little orifice, ascertained by a probe to be in communication with the diseased rib, seemed at last to granulate from the bottom and entirely close up, when the cure was complete, and the boy dismissed.

Before carbolic acid came so much into vogue, I had another case under treatment, almost identical with the last, in a boy about the same age, and almost in the same situation. In consequence of the abscess pointing, it was opened and treated on general principles. But, though with a long course of generous treatment the general health improved, he was ultimately discharged with a slight oozing of matter from the wound, kept up by the carious rib. Contrasting, therefore, the two cases, I cannot avoid the conclusion, that a cure was effected in the one by the carbolic acid, while without it in the other, the patient was discharged uncured. Apart from disease of bone, in abscesses acute or chronic, in wounds, burns, or other injuries, and in amputations, I have not the slightest doubt of the advantages to be derived from this treatment. In callous or weak ulcers, in suppurating buboes, etc., I have also used it with much success. For these affections, I use a lotion of one part of carbolic acid to twenty or thirty of water, as the case may be. The unhealthy gray surfaces of non-healing ulcers and buboes rapidly change to healthy granulating sores under its influence.

In an amputation of the lower third of the thigh in an adult female, I applied freely to the whole surface of the stump, before putting it up, a mixture of one of carbolic acid in six of linseed-oil; and though ligatures were used in this case instead of needles, hardly any suppuration followed, and the stump, most of which healed by first intention, was quite whole, and the patient up *within a fortnight*. In a case of serious scalding of the whole anterior surface of the thigh by porridge, the carbolic acid and oil mixture was freely applied, while the limb was wrapped up in cotton wool, with a loose bandage, and left otherwise untouched for three days. The patient remained free of all constitutional disturbance, and was at the end of that time quite well, with the exception of a small blister of the size of a penny-piece, about the centre of what must have proved a serious sore, had the carbolic not been promptly applied.

Three days ago, a woman was brought in on stretchers, with one of her lower limbs enormously swollen and discoloured, by a dark red angry-looking inflammatory blush, while she suffered great pain on the slightest movement of the limb. On examination, I found she had fallen while in a state of intoxication against a large rusty nail, sticking out of a partition in the house she lived in. The

head of the nail, which came in contact with the knee, penetrated to some distance just below the patella. The result was a suppurating bursitis with the swollen limb referred to. I proceeded as soon as possible to evacuate the matter by a free incision, under a rag of lint soaked in the carbolic mixture. After thoroughly emptying the abscess, the paste was applied on a piece of tea-chest lead in the usual way. The following day, most of the inflammation and swelling had subsided, and the paste was changed, when hardly any matter could be seen about the wound, which looked healthy and much contracted. To-day, only three days after the operation, the patient may be said to be well. There is no discharge, swelling, or pain, and the wound is all but healed. In another case of supuration of both breasts in a female, the matter was evacuated, and the carbolic paste applied, with the result, that in a few days the discharge had ceased, and all febrile disturbance was prevented. Many other cases might be added to prove the good effects of this remedy, if it were not unnecessary.

Ether Spray as a Local Anæsthetic.

My experience of this means of promoting painless operations has been of a very unsatisfactory and negative character. I procured one of the best instruments and the best ether that could be had, for the purpose of giving it a fair trial, and putting it to general use, if I found it to answer the ends expected of it. I particularly hoped that I would find it a great boon in the extraction of teeth, and thus do away with the necessity of giving chloroform, in many cases at least. But I was disappointed. I made several useless attempts at freezing the gum, both by the single and double spray points, acting on one or both sides of the gum at the same time. No sooner could I have the gum paralyzed and ready for the application of the forceps than the mouth was filled with a mixture of ether and the saliva, which its application produced in an increased quantity, requiring the patient to spit out—a loss of time which, with that required to fix the forceps, is more than sufficient in a situation like the mouth to revive sensibility, and defeat the object in view. This I found to be the case even in the front of the mouth, where its application is comparatively easy, and much more so when the tooth to be extracted happened to be well back in the cheek. I have therefore failed to make it of the least service in these cases. I have found it sometimes relieving toothache when applied directly to the gum, or, as in some instances, to the cheek. I have applied it to abscesses, acute and chronic, whitlows, etc., with the hope of being able to open them without pain, but always failed. I had no difficulty in freezing the skin—an operation which in itself is as painful in my opinion as opening many an abscess; but this effectually done, the skin is rendered so tough and hard, that however sharp the knife, it requires such an effort to get it through as, in acute abscesses at least, to make the operation more

difficult and painful than without it. In a large acute abscess where the heat of surface is very great, it is difficult at the best to keep up such a degree of local anesthesia as to admit of a painless operation, more especially if one is without an assistant who continues the spray while the operator is applying the knife. Altogether, I have been able to make the ether spray of but little service. Meantime, I much prefer trusting to chloroform in all operations requiring either. While referring to chloroform, I may state that I find the quickest, cheapest, safest, and best mode of administering it is, by allowing a single fold of an ordinary towel to lie over the mouth and nose, supporting it by one hand, while by the other is held a light stoppered bottle from which the chloroform is allowed to fall drop by drop continuously so long as necessary. In this way, one person can give the chloroform quite easily, while two are required when the chloroform is poured on the towel—one to hold the towel, and the other the chloroform bottle.

Holt's Dilator for Stricture.

Although this instrument has been several years in use, I do not think advantage has been taken so extensively as might be of its decided usefulness. Only in four cases have I had occasion to use it, and in all the four with the most perfect success. Indeed the cure was so remarkable that I think (if I may be allowed to judge from so limited a number) in all suitable cases for this instrument it is a needless loss of time, in hospital practice at least, to spend weeks upon the gradual dilatation of stricture when it can be safely done in most cases in fewer days. In my four cases I had a difficulty in passing a No. 2 catheter at first into the bladder, after which Holt's instrument was passed, and the strictures ruptured or forcibly dilated, so as allow a No. 10 gum elastic to pass with ease. In none of the cases did a bad symptom follow, except a slight shivering in one; and, save passing the No. 10 once a day for two days, there was no further interference necessary. The urine was passed in all of them in a large and easy stream, and they were at once dismissed well. I noticed, in his recent excellent lectures on the surgical diseases of the urinary organs (published in the *Lancet*), that Sir Henry Thompson, though he speaks favourably of Holt's dilator, prefers cutting stricture by means of a bladed instrument introduced into the urethra. I consider this, however, a much more difficult and dangerous proceeding than the other, while I can scarcely think it more successful.

Iodide of Potassium in Syphilis.

Iodide of potassium has always been a favourite remedy with me in cases of syphilis, and I think I have often seen much good resulting from its use. But I had never used it in higher doses than 10 grains, till I noticed recently several correspondents of the *Lancet* agreeing in recommending doses of from a scruple to 30

grains three times a day in tertiary and late secondary affections. Since then I have tried it in four selected cases, with very encouraging results. One was the case of a man who suffered from syphilitic onychia of nearly all his toes' and fingers' ends, causing loss of the nails. A copper-coloured rash covered the legs and arms and a portion of the body. His tongue was covered with malignant-looking ulcers; he suffered from pains in his joints and bones, want of appetite, sleepless nights, and heavy sweats. Various local and general remedies, including iodide of potassium, but in small doses, were tried for several weeks without apparent benefit, before I noticed the iodide recommended in large doses. He was then put upon a scruple dose of it three times a day. In a very few days thereafter, a change for the better was recognised. The medicine was continued in the same dose. The nasty discharge that oozed from beneath the toe-nails soon began to look more healthy; the nails one by one dropt off, and the swelling and inflammation of the toes and fingers subsided; the ulcers on the tongue healed, and the pains throughout the body gradually diminished, the patient the while getting stouter and better, till at the end of a month, on the large doses of the iodide, he felt quite well. The second case was that of a woman who, besides a coppery rash upon the skin, had ulceration of the soft palate. On her admission, the edges of the ulcer had a gray sloughing syphilitic character; all about the fauces was swollen and inflamed; the history, too, was syphilitic. The case was one in which destruction of the soft palate was imminent; she was put upon a scruple of the iodide three times a day, using besides only a gargle of Condyl's solution. Instead of the destruction I feared, the patient began to improve from the commencement of the treatment; the swollen state of the tongue, fauces, and palate, soon subsided; the unpromising-looking ulcer presented a healthy granulating character, and rapidly healed up, and she was dismissed well in a fortnight. The other two cases under treatment by large doses of the iodide suffered from syphilitic nodes and ulcers on their limbs of a tertiary character, with severe aching pains in the joints. Under treatment they made rapid recoveries, the ulcers healing perfectly, while the pains entirely left them. Since noting the above cases, I have given the iodide in several others with most encouraging results. Altogether, I would be inclined to recommend its use to a much greater extent than has been the custom hitherto. It will probably displace in most cases of this disease the preparations of mercury, and while it does so with greater advantages, the bad consequences of the latter will be avoided.

The "Sulphur Cure."

The pamphlets published by Drs Dewar and Pairman, and a discussion in a portion of the public press on this subject, led many medical men, particularly hospital surgeons, to give it a trial in the

various affections it was so strongly recommended in. I got one of the instruments recommended by Dr Dewar, and a quantity of the sulphurous acid, with the intention of trying it in the form of spray as well as by fumigation. Just at this time I was seized myself with a severe cold, which settled down on the respiratory tract from the nostrils to the larger bronchi, causing a heavy cough, with a profuse muco-purulent discharge, with much languor, and loss of appetite. In short, I had a bad attack of catarrh. I rather congratulated myself than otherwise on the opportuneness of this attack, as it seemed just a case in which I would have a fair opportunity of giving a trial to the sulphur cure. Although I had the spray in my possession, I decided on giving a first trial to fumigation. For twenty days I shut myself up in a room four times a day, twenty minutes at a time, breathing air as strongly charged with the sulphur fumes as I could comfortably manage. I adopted the homely method, suggested by Dr Dewar, of sprinkling on a shovelful of live coals four of sulphur to the proper degree. I carried out this practice very regularly; my cold being such as to keep me at least about the house, if not confined to it. Although I might have easily cured this cold, I suppose, in some ordinary way, I was so anxious to give sufficient time and opportunity to the fumigation that I took nothing else for it. At the end of three weeks, finding that my cough was really getting worse instead of better, and no improvement otherwise noticeable, I considered it high time I was trying something else. I stopped the fumigation, and began to inhale the sulphurous acid spray. This I continued five or six times a day, taking about a dozen inhalations at a time with much perseverance for ten days. All this time I was taking great care of myself, avoiding exposure, and paying attention to clothing and diet. The only good I noticed resulting from the use of the spray was, that the cough was somewhat softened, and the expectoration made easier. This was really the case, as I have noticed in several other instances since, but in other respects I cannot say that I experienced any benefit from it. I gave up the sulphur cure, and went off to the country for a change, which in ten days effected a thorough cure. In the hospital, not having a suitable room in which to isolate patients, I was unable again to try fumigation, but the spray I have frequently tried with the following general results: In cases of chronic bronchitis, when other expectorants failed to loosen the sputum, I find a few inhalations of the sulphurous spray doing so in a very successful manner; and where great dyspnoea exists on account of the stuffed-up bronchi, much relief often follows on its use. In cases of advanced phthisis, when the throat becomes parched and dry, with much thirst, which in many instances is not relieved by any amount of drink the stomach is capable of retaining, I find a few inhalations occasionally given followed by great relief and comfort to the patients. It seems to moisten and relax the fauces and throat as 1.0 amount of drink will do, and this without

the bad effects of much drinking in these cases. It also loosens the spit in cases of phthisis, and obviates the necessity of administering expectorants, which but too often derange the stomach and bowels, doing more harm than good. When the shortness of breath is very extreme, perhaps on account of the extensive destruction of the lungs, the patients cannot inhale the spray, as it interferes too much with the respiration, already laboured and difficult. In these cases it should not be given; but when the dyspnoea is due not so much to this cause as to an accumulation of phlegm in the air-passages, it may be given with advantage; for, generally speaking, such patients are more able to bear the exertion consequent on its inhalation at first, after which relief is speedily obtained. In sore throats, syphilitic and other, it relieves pain, and I believe does some good as a disinfectant, but I have not yet seen any of the rapid and perfect cures so often attributed to it. I use a lotion of sulphurous acid in cases of chronic eczema and other skin affections with benefit, also in sloughing gangrenous ulcers, with the advantage of not only destroying smell, but of limiting the ravages frequently occasioned by gangrene.

ARTICLE IV.—*The Medical Council and its Critics: A Vindication.*

By ANDREW WOOD, M.D., F.R.S.E., F.R.C.S.E.; Member of the Medical Council.

I AM not aware that any public body in Great Britain has ever been subjected to more searching and more severe criticism than the Medical Council. I do not contend that the Medical Council has not, like all other analogous bodies, had its sins of omission and commission. I am not prepared to deny that it has at times shown a certain degree of timidity—nay, if you will, of vacillation and procrastination—which is certainly not deserving of commendation; yet this I will say, that whatever be the evils which may have resulted from its tardiness of action, infinitely greater evils might unquestionably have resulted had it acted rashly, hastily, and imperiously, and had it proceeded at once to override all these Licensing Bodies which it was meant, and to a certain extent empowered, to influence in the way of progress and improvement; and had it sought to enforce upon them *breri manu* the views held by majorities of its members—often narrow majorities,—views which after all, when tried, might have been found wanting. It has been said again and again, *usque ad nauseam*, that the Council has occupied itself with little else than talk, and that it has done little or no practical work for the profession. Even within the last week or two, at Aberdeen, a man of such professional eminence as Dr Kilgour of that city spoke in a very contemptuous way of the Medical Council. His words were, “He thought they were all getting very tired of the Medical Council

when they found nothing there but indulging in talk and personal reflections, and spending a good deal of money. The sooner the constitution of that body was changed the better for them all." Now, with regard to the expediency of some change in the constitution of the Medical Council, I do not dispute that. I have myself for several years advocated the view that it would be a great advantage in many respects were more of the popular element than at present infused into it, and were a certain proportion of its members elected by the direct votes of registered practitioners; but when it is deliberately said that the Medical Council as at present constituted "has done nothing but indulge in talk and personal reflections," I repel the unjust and ungenerous accusation with indignation,—knowing, as I well do, and as can easily be proved, that that abused Council has done a great deal more than talk—that it has worked hard in the performance of its duties—that it has already much and useful work to show as the result of its labours, and has laid a solid foundation for the accomplishment (and that in no long time) of much more. Before proceeding further, I will just make a single remark upon what has been said as to "personal reflections." There may, no doubt, have been at times warm discussions in the Medical Council; but not until I shall have adduced to me the example of any Council or representative Board in the kingdom (where there is free discussion) where there never has been heat of debate or misunderstanding, and which consequently would be entitled to "the flitch of bacon," will I allow that the Medical Council has committed peculiar and unpardonable transgression in this respect. This I can say from eleven years' experience, that I know no body in the kingdom where there is more cordiality of feeling amongst its members than the Medical Council.

Let me now prove the position which I have taken up by a selection of some authentic facts and illustrations taken from the history of the Medical Council during the ten years of its existence. Let us see what are the chief duties which the Council had to perform, and how they have up to the present time performed them, and then let an impartial judgment be formed regarding the matter by unprejudiced persons.

One of the duties of the Medical Council is to elect its President—that it has failed in that duty can hardly be said when we recall the names of Sir Benjamin Brodie, Mr Green, and Dr Burrows, who have successively held the Chair, and of Dr Paget, who now so worthily occupies it.

Another of the duties committed to the Council was to prepare a national Pharmacopœia which should take the place of the three Pharmacopœias of London, Edinburgh, and Dublin, which, greatly to the inconvenience of medical men, druggists, and the public, had long held independent and discordant sway in the three kingdoms. Has the Council failed in this duty? Is it not the case that the British Pharmacopœia has been most successfully prepared—is

now generally approved and adopted at home and in the colonies, and is acknowledged to be one of the very best, if not the very best, *Pharmacopœia* in existence?

Another duty of the Council was to establish an official Register of qualified practitioners, to preserve it accurate, and to purge it as occasion arose from the names of those whose presence there would disgrace the profession. Those who know the difficulties which encompassed this task—however easy it may have appeared to those carping critics who can see no good in the Medical Council—well know that the duties involved in establishing and preserving it pure and accurate, have been neither few nor light; and that their right fulfilment has required much care, labour, and discretion. The Medical Council, I aver without fear of contradiction, has not at any time been found wanting in fulfilling its registration duties cautiously yet efficiently.

But the *gravamen* of the charges of inefficiency against the Medical Council is, that it has done so little for the improvement of Medical Education—so little in the way of elevating the standard of Medical qualifications—so little in the way of controlling or checking those Licensing Bodies (which by the Medical Act were to a certain extent subordinated to it), which might either refuse or neglect to conform to its (the Council's) requirements in the way of amending either their curriculum of study or their system of examination. If one were to give credence to all that the numerous and often very indiscriminating critics of the Medical Council say, one might be disposed to think that the Licensing Bodies acted as if they had but one sole object in view, viz., to fill their coffers; and that, following out that very base object in a very base way, they did not care much what kind of men they sent forth armed with their degrees or diplomas to practise upon a suffering public. One might think, in addition, that the Medical Council, for its part, had been either culpably conniving at, or at least neglecting to use the powers committed to them for the purpose of checking, a system so discreditable. What else, it has been added, could be expected from a Council, a large proportion of whose members are sent to it by these "erring sisters" the Medical Corporations?—as if honourable representatives of these bodies, such as have sat, and do sit, in the Council, were, or could ever consent to be, mere slavish delegates sent to the Council to do nothing else than look after the selfish interests of their respective bodies, and to sacrifice to that object their sense of conscientious duty and the general interests of the profession. I do not envy the feelings of those who make such pitiful charges or insinuations against honourable men, whose position in the profession should protect them against such groundless accusations.

If all that has been said by critics against the Medical Council and the Medical Corporations were true—which it is not—it would be equally true that the country must be in consequence inundated

with ignorant medical practitioners utterly unworthy of public confidence, utterly unfit to practise their profession, and that it would be the duty of the State to put an end with a high hand at once and for ever to such a system, and with it to that Medical Council and those Medical Corporations, which, according to the critics, ought to be held mainly chargeable with such untoward results. Now, who dare say that the present race of medical practitioners in Great Britain and Ireland as a body are not well worthy of public confidence? Who dare say that year by year, in every corner of the empire, there has not been a vast improvement in the status of the medical profession? or that medical men of the highest capacity, and able for any emergency, are not to be found not only in our great cities, but everywhere throughout the country? Is there any part of the world where there are to be found men more highly qualified to grapple with disease even in its worst forms, and to cure them too, than the present generation of British medical practitioners? There may be, and doubtless there are, incompetent persons and black sheep in our profession as in every other profession; but these are the exceptions,—nay, I hesitate not to say, the rare exceptions. I can look back during a long course of professional experience on years more than I care to think of—not less than thirty-five years, during which I have been brought in contact with a large number of my professional brethren in town and country, and I can bear testimony to the progress which has been made in elevating the status of medical men, especially of late years. And it is not merely as regards professional attainments that improvement is to be noted—in no less degree, I rejoice to say, has been the improvement in the scientific and literary attainments of medical men. Whatever in this respect may have been the state of the profession in the days of Tobias Smollett, and even some twenty years ago, it has real claims now to be called—not merely in courtesy—a learned profession. But it may be said, and will of course be said by those who persistently and systematically disparage the Medical Council, that we owe little or nothing of these great and undoubted results to the operation of the Medical Act, and to the action of the Medical Council. Is that the case? I boldly answer, No. Take first the testing of candidates for medical qualifications in General Education—what was the case in that respect in the pre-Medical Act times? It was this: one or two of the Licensing Bodies—it would be invidious to specify them here—had doubtless in this respect, though in a small degree, forestalled the action of the Medical Council by establishing preliminary examinations, not very extensive, nor very searching, in general education; but for the most part, and by the great mass of the bodies, that duty was greatly neglected or altogether omitted, and men were constantly being admitted into the profession not only through the lower professional diplomas, but even through the higher degrees of some Universities, with little or no testing of their scientific and literary

acquirements. In fact, the profession was in danger of being overrun with illiterate men. This state of matters was one of the crying causes of the demand for a Medical Reform Act, and this it was which at a very early period of its existence attracted the special attention of the Medical Council. As the result mainly of its action, it is a matter of congratulation, that now there is not a single Licensing Body in the kingdom, nor, I believe, in the colonies, which does not require all candidates for its qualifications to produce a certificate of having passed an examination in literature and science. With hardly an exception, all of the Licensing Bodies require that this examination shall have been passed before a student is permitted to enter upon his professional course of study. Has nothing but "talk," then, here been accomplished by the action of the much-abused Medical Council? But it has been said—for there is no pleasing some of the critics—"No doubt, a preliminary examination of some sort has been almost universally established under the recommendation of the Council, but it has been pitched far too low." It is the Committee of the British Medical Association—if I mistake not—who have dwelt particularly on this point, and who have gravely made it matter of accusation against the Medical Council, that it has not prescribed for all those entering the medical profession a preliminary examination up to the standard of the London University examination. Now, I maintain that the Medical Council have done all that is either wise or practicable under present circumstances in establishing a feasible examination—one which can be, and is, I have no reason to doubt, made a *bona fide* one. Under the Medical Council's recommendation, it is required that every one who desires to become a student of Medicine should have passed an examination in English, Latin, Arithmetic, Algebra, and Geometry; and in one of several other subjects at his option, viz., Greek, French, German, and Natural Philosophy. The Council have done what they could, by visitation, inquiry, and otherwise, to secure that that examination shall be properly conducted and fairly judged. If we may judge of the test by the numbers of rejections reported, that test is by no means so easy a one as some of the critics—who evidently do not know much about the matter—have endeavoured, in disparagement of the Medical Council, to make out. Its visitors have on various occasions pointed out defects in particular examinations, with the result of having them remedied. If the Council had all at once endeavoured to establish a very high test—one that it would have been found difficult if not impossible to carry out efficiently—they would, in my opinion, have acted very foolishly, and in a manner injurious to the interests of the profession and the public. Raise this preliminary test in the case of the higher degrees and qualifications in the profession as you may,—and under such circumstances it ought to be raised, and the Medical Council have said emphatically that it ought to be higher; but in the case of the ordinary license to practise Medicine and Surgery, if

you try all at once to raise the standard too high, you will either be unable to enforce it, or if you enforce it too rigidly, you will run no small risk of depriving the public of an adequate supply of medical practitioners.

An important step remains, in my opinion, to be taken regarding this preliminary examination, and that is to establish one Board of Examiners in each division of the kingdom, by whom all those seeking to be registered as Medical Students—excepting, of course, those who have obtained Arts Degrees in a University—should be examined in General Education. In this way would be secured a greater degree of uniformity and efficiency than by the present system, which accepts the examination of a large number of heterogeneous Boards over which there is no central controlling power. The present Medical Act unfortunately gives the Medical Council no power to institute such a Board. Had Mr Headlam's Bill been passed in 1856, that Bill, which was in fact the Bill prepared by a convocation of delegates from the Medical Corporations, with the co-operation of delegates from several of the Universities, an efficient system of preliminary examination might have been obtained at that time by a special clause for the purpose, which was inserted in that Bill. Here, by the way, let me take this opportunity of stating a fact, which has been lost sight of by the traducers of the Medical Corporations, that the present Medical Act was passed, not in consonance with the wishes of the Corporations, but in spite of their strenuous resistance. The Bill which they prepared (Mr Headlam's Bill), a Bill which at the time obtained the approval of the British Medical Association, would, if I mistake not, have settled for years the question of Medical Reform on a solid basis. The present Medical Act, which was fathered by two Members of Parliament of opposite politics, Mr Walpole and Mr Cowper, was nothing more nor less than a mere compromise, which I and many others predicted would act only as a temporary stop-gap, and might obtain for a time a truce in the war of Medical Reform—a suspension of hostilities, but would not and could not end the thirty years' war on a satisfactory basis. Our predictions have been amply fulfilled. That Act has been tested, and though it has achieved, spite of the critics, no small amount of good, yet in some essentials it has been found wanting. The profession are calling for its amendment, and none know better than the Medical Council that it does require amendment, and none, perhaps, know better the difficulties in the way of framing and carrying a Bill that will meet all the requirements of the case.

But, apologizing for this digression—not an unnecessary one, however—let me return to the question of the work done by the present Medical Council. Has the Council done nothing for professional education and examination? Has it done nothing, for example, by visitation of the examinations of the Licensing Bodies in the way of rendering the examinations for qualifications in Medicine and Sur-

gery more efficient? Have these visitations, which some of the critics have sneeringly termed amateur visitations, been either perfunctorily conducted or without result? Has there been no stimulus applied in consequence of them to the Licensing Bodies, with the effect of rendering these tests of competency more extended, more searching, more practical, and more satisfactory? It has been said that the Licensing Bodies, in order to make money, are constantly passing men into the profession who are utterly incompetent; and in proof of this, the Returns of the Results of the Examinations by the Army, Navy, and East India Medical Boards are appealed to. Well, I admit, and I regret to have to admit, that men have from time to time been passed by the Licensing Bodies, both Corporations and Universities, who have been unable to pass the Boards just mentioned. But let me remark, that the number of such cases is not so great as might, from a cursory perusal of the Returns, appear, since in the list of failures have been included those who were not absolutely rejected by these Boards, but only did not succeed in competitive examinations in securing for themselves a winning place. But, granting that the number of real rejections is greater than it ought to be, and than one would desire to see, who knows but what, if the Army, Navy, and India Boards had had the initiative in the examinations, some of those who passed them might have been rejected by the Licensing Boards had they afterwards been submitted to their examinations? Any one who has had much experience as an examiner knows that even where examiners are most competent, careful, and conscientious, it is far from impossible that occasionally men not up to the mark should in some way or other slip through. Be that as it may, that the Licensing Bodies are not so culpable as might be imagined in the matter in question, will, I think, be evident from the table on next page, prepared by a Committee of the Medical Council during its last session, from which it will abundantly appear that if on rare occasions men do slip through who ought to have been rejected, it is not that the power of rejection by the Examining Boards of the Licensing Bodies is sparingly employed—in fact, the rejection column of the following table is not a little appalling to look on, and gives little encouragement to incompetent men to present themselves for examination before these Boards. Be this as it may, the table is an authentic document, which shows exactly the state of the case.

There is one point to which I must now particularly allude, because Sir John Gray, in his late slashing speech in the House of Commons—quite unintentionally, I am sure, on his part—produced an erroneous impression regarding it,—I mean the institution of Clinical Examinations in Medicine and Surgery. Sir John Gray's statement, from whatever quarter he may have obtained his information, totally understated the extent to which this most valuable, nay most essential, test has been already carried by the Licensing

TABLE FOR 1868.

LICENSING BODIES.	QUALIFICATIONS.	No. of Exams.	No. PASSED.			No. REJECTED.			
			1st Exam.	2d Exam.	Final.	1st Exam.	2d Exam.	Final.	
R. Coll. Phys. London	Membership .	3	...	...	20	...	1	1
	License . . .	2	4	...	82	2	...	13	
R. Coll. Surg. Eng-land	Fellowship .	2	63	...	31	8	...	1	
	Membership .	2	403	...	341	123	...	63	
	Lic. in Midwifery.	1	...	...	26	...	...	7
Soc. Apoth. London	License . . .	3	203	198	78	36	25	...	
Univ. of Oxford .	M.B. . . .	2	1	...	3	...	...	...
	M.D. . . .	Essay	...	...	...	...	...	...
	M.B. . . .	3	9	11	4	6	3	1	
	M.D. . . .	Essay	...	...	...	...	...	...
" Cambridge	M.C. . . .	3	...	...	...	...	...	...
	M.D. . . .	Essay	...	...	2	...	...	...
	M.B. . . .	1	...	...	...	...	...	...
	M.D. . . .	Essay	...	2	11	...	...	...
" Durham	L.M. . . .	2	1	...	1	...	...	...
	M.C. . . .	2	...	...	1	...	...	...
			Prelim. Scientific for Med. Students	1st M.B.	2d M.B.	Prelim. Scientific for Med. Students	1st M.B.	2d M.B.	
" London .	M.B. . . .	3	*54	31	21	45	13	2	
R. Coll. Phys. Edin.	License . . .	2	67	...	219	45	...	80	
R. Coll. Surg. Edin.	License . . .	2	4	...	40	4	...	6	
R. Coll. Phys. & R. Coll. Surg. Edin.	Lic. in Med. & Surg. }	2	52	...	74	35	...	33	
R. Coll. Phys. Edin. and Fac. Phys. Surg. Glas.	Lic. in Med. & Surg. }	2	10	...	18	6	...	13	
Fac. Phys. Surg. Glas.	License . . .	2	31	...	36	10	...	18	
Univ. of Aberdeen	M.B. . . .	...	39	44	37	11	13	4
	M.C. . . .	3	...	...	31			
	M.D. . . .	...	...	...	4			
	M.B. . . .	3	Passed in all 3 Exams. . .		50	Rejected in all 3 Exams. . .		9	
	M.C. . . .	...	Ditto . . .		41	Ditto . . .		9
" Edinburgh	M.D. . . .	3	Under New Stat., in all 3 Exams. . .		11	Ditto . . .		...
		3	Under Old Stat., ditto . . .		12	Ditto . . .		4	
	M.B. . . .	3	55	51	38	21	15	6	
" Glasgow	M.D. . . .	2	1	...	3	1	...	...
	M.C. . . .	...	...	...	37	...	...	...
" St Andrews	M.D. . . .	1	...	...	9	...	...	...
K. & Q. Coll. Phys. Ireland . . .	Lic. in Med. .	2	1	...	100	...	...	12
	Do. in Midwifery.	1	...	...	76	...	...	10
	Lic. in Surg. .	2	149	...	106	21	...	10	
R. Coll. Surg., Irel.	Fellowship . .	2	4	...	4	1	...	1	
	Lic. in Midwifery.	2	5	...	5	...	...	...
Apothecs.' Hall, "	License . . .	2	17	...	25	5	...	8	
Univ. of Dublin .	M.B. . . .	1	13	...	44	38	...	...
	M.C. . . .	1	...	...	25	...	...	3
Queen's University Ireland . . .	M.D. . . .	2	66	...	49	40	...	18	
	M.C. . . .	1	...	...	22	...	...	17

* Four of this number were examined in Physiology only, and six passed the first M.B. without Physiology.

Bodies, mainly, I am entitled to say, in consequence of the action of the Medical Council. Now, let me state, that in Scotland Clinical Examinations are exacted by the Universities of Edinburgh, Glasgow, and Aberdeen, by the Royal Colleges of Physicians and of Surgeons of Edinburgh, and by the Glasgow Faculty. All of these examinations have been visited and reported on by the visitors of the Medical Council. These reports show that there is no difficulty in carrying out such examinations, and that, as carried out by the Licensing Boards alluded to, they are efficient. The University of St Andrews is now, in fact, the only Board in Scotland which has not instituted Clinical Examinations. There, however, only ten degrees in Medicine can be conferred in any one year, and then only on registered practitioners of forty years of age. I hope, however, that St Andrews will without delay introduce these Clinical Examinations. Though there is no hospital at St Andrews, yet there is an excellent one at Dundee within easy distance, and there the examinations could easily be conducted by the Physicians and Surgeons of that hospital, appointed by the University to act as special Clinical Examiners. If this were done, Clinical Examinations would be universal in Scotland. In England, Clinical Examinations are at present required by the Universities of Oxford, Cambridge, London, and Durham, and, if I am not mistaken, by the Royal College of Physicians of London. The London Apothecaries have not as yet adopted them. They have obviously some difficulties in the way of organizing them for these examinations; but they, I understand, are taking steps to institute them. The London College of Surgeons use Clinical Examinations for their Fellowship, but not as yet for the Member's Diploma. Of course, the number of diplomas granted by that College is very large, and it may be somewhat difficult to organize Clinical Examinations for them; but surely, with such a number of large hospitals and dispensaries at command as London presents, it should be anything rather than impossible to arrange such examinations, which might be efficiently conducted by examiners specially appointed for the purpose by the College from amongst the Physicians and Surgeons of these institutions. The very number of the diplomas granted by this College renders it all the more imperative that no time should be lost by it in instituting Clinical Examinations. The Medical Council have no power directly to compel the College to do this, but I have no doubt but that the same "moral suasion" on the part of the Medical Council, which has induced that College to reform various parts of its system of examination, will speedily effect this also. Failing this result, a representation of the case by the Medical Council to the Privy Council could not fail to effect this important, nay, essential object; and this is exactly such a case as the Medical Council should, and, I believe, would, if necessary, make a matter of representation to the Privy Council in terms of the Medical Act.

In Ireland. Clinical Examinations are, I believe, only very partially employed as yet; but I have reason to know that there the subject is attracting the attention which it deserves, and we may confidently expect to hear shortly that justice is being done by Ireland in this respect to her Medical and Surgical qualifications, to the candidates for them, and especially to the public, who are principally concerned, in having men sent out to practise who have been practically tested as well as practically taught.

Has the Council done nothing but talk, when it instituted a Committee on State Medicine who have collected a large body of most valuable evidence, which (whether a special degree in State Medicine be instituted and registered or not—for that is a debatable point) has, at all events, clearly proved the great need there is that the various departments of State Medicine should receive more attention than hitherto from students of medicine generally; and that Hygiene and the means of preventing diseases should be studied far more extensively and systematically than hitherto, and to the full as much as the means of curing disease when it has arisen? The Report of the State Medicine Committee will doubtless in due time bear fruit; but surely the Council are not to blame if they deem it right in the first instance to submit it to the consideration of the Licensing Bodies—of the teachers—of the profession generally—not to mention those learned pundits, the critics in the Medical Journals; so that they may give the question that mature consideration which ought to precede the promulgation of definite regulations on a matter of some difficulty and of no small importance. Of this we may feel certain, that, had the Medical Council proceeded at once to take practical action on this and similarly important matters without consulting the profession, these very critics would have taken occasion to find fault with them for precipitancy.

Has the Medical Council done nothing but talk, when it instituted the Committee on Education, who have endeavoured from all available quarters to accumulate information the result of the experience of almost all the most eminent teachers in this country, as also a *resumé* of the system adopted in the principal Schools of the Continent, in order that they may be guided to sound conclusions in the discharge of their important duties as a Council of Medical Education? Such valuable information as they have now obtained could not have been got together except at the expense of much labour and much time; nor could it have been carefully digested and considered, except at the expense of no less labour and no less time. In order to base a satisfactory Report upon it, it needed that, after being drafted—as it was by the very able Secretary to the Committee, Dr Parkes (than whom it will be agreed on all hands that no man could have been found more fitted for the task)—that draft should be sent in proof for their suggestions to the members of the Committee residing at a distance from each other in all parts of the kingdom. That was necessarily a matter

of some time and much correspondence ; but after all that, it needed that the Committee should meet face to face during the session of the Council—the only time in fact when they could so meet—that they should devote hours day after day, as they most industriously did, to the consideration of the numerous and important points embraced in the draft Report. It was impossible under these circumstances that the completed Report could be laid before the Council at an early period of their short session. How could it be expected that the Council could have time thereafter to read over leisurely and carefully the Report and the Evidence, to prepare which had taken months ? and, still more, how could they have discussed it satisfactorily, and on the spot have come to definite conclusions on numerous points fairly admitting of much difference of opinion regarding them ? And why is the Council to be blamed by the critics for doing that which I think it was their duty to do—viz., consulting the Licensing Bodies, who have had much experience on the matter, and who are to be so much affected by the proposed alterations, and hearing their suggestions, as well as the suggestions of the teachers, and of the critics themselves ? Just look at what has happened in Parliament in regard to the general education of the country. Notwithstanding the great necessity of the case—notwithstanding that the question has been for years under discussion in the press, and in Parliament, and amongst the community generally—notwithstanding that we have had Royal Commissions of Inquiry, and Reports of Parliamentary Committees not a few—notwithstanding that Parliament sits six months in the year, instead of ten days as the Medical Council does—notwithstanding that Parliament is omnipotent, and not like the Medical Council extremely restricted in its powers—yet Parliament has as yet failed in passing a satisfactory Education Bill for England or for Scotland. Is there, then, any such failure or “shirking” of duty (for that elegant phrase has been used by some of the critics) on the part of the Medical Council ? any such proof of incompetence to deal with the subject ? any such mark of undue procrastination on their part, if they have delayed for a year, and until they are in circumstances to do so satisfactorily, the passing of their Medical Education Bill, which is to be a sort of cope-stone to their previous labours in the field of Medical Education ?

It would, of course, be extremely unbecoming in me to characterize the Report of the Education Committee, of which I had the honour to be chosen chairman in succession to Mr Syme, the originator of the inquiry, seeing that I have been called upon, however humbly, to bear my share in its preparation ; still I may be allowed here, as germane to my theme, to analyze its principal parts as briefly as I can, in order to show that it is at all events a comprehensive Report, which deals with almost if not altogether every part of the question of Medical Education, and which raises clear and intelligible issues, the right decision regarding which is calculated to effect a material

influence on the future progress of the profession in our country, and probably beyond its boundaries. If it be destined, as the critics seem to have destined it, that the present Medical Council is to be superseded by some Council that may be judged by its critics to be less fallible and more calculated to win the public confidence, it will at all events, if it must die of criticism, have left in the Education Report a legacy to its successors which may prove in no small degree useful to them. It may be the fate of another Medical Council to experience that woe which is denounced against those of whom all men speak well; from that woe the present Council, at all events, has signally escaped. At the risk of being accused by the critics of self-glorification, yet, audacious that I am, I venture to express the opinion that the present Council, whatever its failings, has done its duty conscientiously, with ungrudging labour, with a sincere desire to advance the best interests of the profession and the public, and that it has been by no means so unsuccessful in its results as its merciless critics aver.

But to come now to the Education Report itself, let me advert to some of the most important of the salient points embraced in it. The Committee wish the question—whether Botany ought or ought not to form part of the education of a medical man—to be reconsidered; and if it ought, whether it should be included in the preliminary or the professional course. They suggest the propriety of taking the subjects of Heat, Light, and Electricity out of the Chemical course, where they have been hitherto to a certain extent taught, encroaching thus on the time available for Chemistry proper, and having them taught under the title of Physics by a separate teacher, in conjunction with those important branches of Natural Philosophy, Mechanics, Hydraulics, Statics, etc. Considering the important bearings of these subjects on Physiology and other departments of the curriculum, this is a suggestion worthy of consideration. Then they wish that Chemistry should be more thoroughly taught than at present, for there is no doubt that too many of our students possess a mere smattering of Chemistry. They wish, too, that attention having been devoted either early in the professional curriculum or in the preliminary course of study to Elementary Chemistry, Chemistry in its bearings on Physiology and the Practice of Medicine should be specially taught later in the curriculum. They are desirous that Anatomy should be specially studied in its relations to Medical and Surgical practice. They indicate their opinion, that General Anatomy or Histology should be taught along with Physiology by the teacher of that branch rather than by the teacher of Anatomy, who has sufficient to occupy him independently of the anatomy of the tissues. They propose that Materia Medica should be divided into two distinct and separate parts—Pharmacy and Therapeutics, the latter embracing the important subject of Dietetics, and that the former should be taken in the early or scientific part of the curriculum; the latter during the later or practical part of the curri-

culum, when alone the student will be able to be taught it with advantage. They also consider that Pathological Anatomy should form a distinct branch of study, and be taught practically and systematically in the post-mortem rooms of an hospital. They desire that Hygiene should be efficiently taught, much more extensively than at present, as of vast importance for aiding in the prevention of disease ; they would disjoin it, therefore, from Forensic Medicine, to which it has hitherto formed an appendage. They are anxious that the four years of study required should be occupied by the student to the best advantage, and that the scientific and practical part of the curriculum should be studied in their due order, and should occupy their due proportions. Of course the scientific part should occupy the first period of the curriculum, and might occupy eighteen months devoted to Physics, Chemistry, Medical Chemistry, Anatomy, systematic and practical, General Anatomy, Physiology, systematic and practical, Pharmacy, and Botany, if included in the curriculum. They consider that the first of the two professional examinations (for they discourage as injurious any greater multiplication of examinations) should take place at the end of the scientific division of the course of study. The remainder of the four years should, they consider, be devoted to the strictly practical subjects, including Therapeutics, Medicine, systematic and clinical, Surgery, systematic, operative, and clinical, Pathological Anatomy, Midwifery, systematic and clinical, Forensic Medicine, and Hygiene ; and that the second and final examination should embrace these practical subjects. They have sketched out as a guide to Licensing Bodies and students two alternative schemes, showing how in the course of the four years of study each session may be best occupied ; one of the schemes having regard to the professional course commenced in winter, the other having regard to the professional course commenced in summer. They have endeavoured in these schemes to arrange the courses and their sequence in such a way as that each course shall occupy its proper place and its proper time. Such a directory is not unnecessary, considering how foolishly and ignorantly some students, either *proprio motu* or misled by ill advice, take their order of study in the cart-before-the-horse fashion, and thereby mar the efficiency of their course of study. The Committee have made a most important suggestion, that class examinations should be adopted in all courses of lectures—that attendance on them shall be compulsory—and that no student who has not taken part in the class examinations on each branch of study shall be granted a certificate of attendance. If this rule be carried out rigidly, roll-calls and such expedients, which are irksome and liable to be evaded, might be dispensed with ; and, besides, there would seem to be no plan better calculated than this to prevent that most injurious habit into which too many students fall, of neglecting their studies during the progress of each part of the course, and trusting to grinding, cramming, or coaching, when the

term of their professional examinations draws nigh, in order to endeavour to make up then in a hurry and to great disadvantage for those precious hours of continuous study which they have so culpably and often irremediably lost. The Committee have also emphatically dwelt upon the great importance of practical instruction in all departments, and of thoroughly practical examinations. As Anatomy cannot be mastered without practical work in the dissecting-room—Chemistry, without practical work in the chemical laboratory—so, to master modern Physiology, there needs practical work in the physiological laboratory; to master Pharmacy needs practical teaching in the pharmaceutical laboratory and museum. Pathological Anatomy can be only rightly studied by diligent attendance in the post-mortem room of an hospital, where cases are inspected and commented on by the physicians and surgeons, or by a special pathologist, and where the student may see and handle, and examine microscopically or otherwise fresh morbid specimens. Practical Medicine and Surgery can only be properly learnt by the student, not by *pro forma* walking an hospital, but by diligently, day by day, following the visits of the physicians and surgeons, and listening to their observations and prelections, and embracing every opportunity of scanning and observing cases for himself. And how alone can it be secured that students shall use aright their opportunities of such practical instruction, except by rendering it imperative that no student shall obtain a degree or diploma until he has been thoroughly tested at the bedside or on the out-patients in hospitals and dispensaries? Till this desideratum has been accomplished and exacted universally, the labours of the Medical Council as a Council of Education will be incomplete. In furtherance of the great object of such thorough practical instruction, the Committee in their Report, and Dr Christison in one of the appendices to the Report, urge the importance of a larger number of students—all, if possible—having the opportunity of becoming clerks and dressers in hospitals, and pupils in dispensaries, in order that they may thus be brought more closely in contact with disease in all its forms, and bear a part in the diagnosis and treatment of cases, and may thus be enabled best to buckle on their armour for encountering those difficulties which encompass the path of every young medical man entering upon the practice of his profession. It would be well if Hospital Physicians and Surgeons would take into consideration this matter, with the view, if possible, of devising some feasible plan by which this great object might be accomplished. This only is certain, that at present only a very select few of the students enjoy the benefit of this most important method of learning their profession. The Committee dwell also with justice on the importance of the students receiving a larger amount than at present of instruction in Midwifery, by actual attendance on a considerable number of cases under the guidance of competent instructors.

Such are some of the suggestions, and there are not a few others, to which, from want of space, I am unable to allude here, which the Education Committee have made. The very mootings of such suggestions, and bringing them prominently before the Licensing Boards and the teachers in our Medical Schools, to whom they have been transmitted, are calculated to do a vast amount of good, even were the Council not to follow up their Report by a code of specific Recommendations. But I venture to predict that, if the critics will only have due patience, they will find that the full consideration of this Report (when it has been rendered ripe for such consideration) by the Medical Council, will eventuate in the issue of important Recommendations. Nor let the word Recommendations be sneered at by the critics, for it is in this way that the Council are empowered by the Act to proceed. If they are not adopted by the Licensing Bodies, the Medical Council have the power to make representations of the recalcitrant Bodies to the Privy Council, and if the Privy Council are satisfied that the Recommendations are right Recommendations, and that the recalcitrant Bodies are wrong in not adopting them, then, doubtless, these Bodies would incur the risk of being suspended from their licensing powers. The state of the case is, that the Medical Council have powers to issue Recommendations; but if disputed, they can only be rendered binding by a decision of the Privy Council, which acts as a Court of Appeal. Hitherto, doubtless, the Medical Council have never made any such representation, and for their conduct in this respect they have been censured by Sir John Gray amongst other critics. But let us see how the case really stands. From the very nature of the representations in question, it is clear that they are only to be used as a last resort, and only in cases so clear that there could be no doubt of the representations being sustained by the Privy Council. To "represent" any merely unessential matter, or to "represent" even an essential matter, unless it has been supported by a very decided majority of the Medical Council, would surely not be expedient. But if any essential recommendation of the Medical Council, backed by the approval of a decided majority, say three-fourths, were to be set at nought by any of the Licensing Bodies, and if the Medical Council were to refrain from "representing," they would be abrogating their functions, neglecting their duty, and might then very justly incur general condemnation. If the Medical Council have hitherto not exercised their power of representation, is it not because in almost every instance sooner or later the Licensing Bodies, by their own action, and by adopting the Recommendations of the Council, have rendered such a course unnecessary? My own opinion, from what I have seen of the Medical Council, is, that in a proper case for "representation" they would not be found wanting.

There is another matter, and a very important one too, to which the Education Committee in no equivocal language have alluded,

that is to say, the necessity of combining the examinations of the Licensing Bodies so as to form one single joint Examination Board in each of the three kingdoms. In the Medical Act of 1858 this important object has been very inefficiently provided for, by a mere permissive clause (Sect. xix.), which allows any two or more of the Licensing Bodies, with the sanction and under the directions of the Medical Council, to unite or co-operate in conducting the examinations required for qualifications to be registered under the Act. This clause has hitherto not been taken advantage of to any extent, except in Scotland, where the College of Physicians of Edinburgh with the College of Surgeons of Edinburgh, and the College of Physicians of Edinburgh with the Glasgow Faculty, have co-operated with one another in conducting the examinations by which the double qualification is granted after examination by joint boards. In England, hitherto negotiations between the English College of Physicians and the English College of Surgeons have had little or no result. Why is this? There must surely have been a want of heartiness in the cause somewhere amongst the English Bodies, or difference on points, to surmount which, had the will been strong, a way might easily have been found out. Had the English Bodies been alive to their own best interests—to take low ground—they would long ere this have made an arrangement which must now ere long, in all probability, be forced upon them. In Ireland, too, very feeble efforts have been made hitherto by the Irish Licensing Bodies in this direction. I am glad, however, to learn, that at this time important negotiations are being conducted between certain of the Irish Licensing Bodies, which I sincerely hope may eventuate in a successful combination of these Examining Boards. The present Medical Act erred in not providing by statute that such amalgamations of Examining Boards should be compulsory. Mr Headlam's Bill, to which I have already alluded, contained clauses which would have carried out efficiently the desirable object of concentrating and combining the examinations of the various Medical Corporations into three Boards, viz., *one* for each division of the kingdom; and thus, had that Bill passed, instead of the present compromising Medical Act, a very important object would have been carried out a dozen years ago. I think, however, that in any new Bill that may be introduced into Parliament in providing for these Divisional Examining Boards, care should be taken, as was the case in Mr Headlam's Bill, that the Medical Corporations shall not be wantonly sacrificed. Some of our critics, in their own trenchant style, would root out, as effete, the Colleges of Physicians and Surgeons. They would deprive them of the power of taking a part in the examination for the license; they would thus deprive them of the means of supporting themselves as independent bodies. But I maintain that these peculiarly British Institutions, which have tended, let the critics gainsay it as they may, to maintain the independence and self-government of the profession in

our country, which have done much to advance Medical Science, and have done much, too, to advance the cause of Medical Education and Testing, ought not to be destroyed. Cripple or destroy them, as some of the critics in gloating language advise, what is to supply their place? Their rolls contain the names of a goodly number of worthies who have done honour to our profession in every branch, and who, through their connexion with these Colleges, have been instrumental in achieving many most excellent results for the profession, which otherwise might not have been obtained. The tendency of the age is to destroy, to disestablish, and disendow; but the tendency, too, of the age is for the members of various trades to unite together for mutual protection and support. The Colleges of Physicians and Surgeons are old-established unions of professional men, which, with all their faults—and they are but human institutions, and therefore not infallible—have done the State and the profession much service. They ought not to be discarded at the instigation of fussy agitators, who may wish to raise themselves and their modern organizations, of which, however, harmony does not seem to be a characteristic, on the ruins of time-honoured institutions; nor is it needful that they should be discarded, seeing that combined Examination Boards can be, as I believe, best carried out by judiciously combining such an amount of examining talent derived from each and all of these bodies with the help of the Universities under equitable and efficient conditions as may constitute excellent Examining Boards for granting the initiatory license to practise Medicine and Surgery.

One other remark, which I would make in connexion with this part of the subject, is this, that the effect of the present Medical Act, whilst it contained a permissive clause meant to legalize and encourage amalgamation of the Examinations of the Licensing Bodies, has actually been in some respects to promote multiplication of licenses to practise, seeing that very many, if not all, of the Universities have recently established M.B. degrees in Medicine and Master-ships of Surgery, avowedly in order to compete with the licenses of the Colleges of Physicians and Surgeons. Still more recently, as a result of the failure of the two English Colleges of Physicians and Surgeons to come to terms as to combination, the former have availed themselves of their charter under Henry VIII. to grant the double license in Medicine and Surgery, which is now recognised as such by the Army and Navy and Poor-Law Boards. They have thus cut the feet, to a certain extent, from beneath the College of Surgeons, who have thus shown a want of worldly wisdom in not obviating this untoward result by making direct combination with the College of Physicians of London similar to that which has been carried out for years in Scotland with the view of granting the double qualification. For all this the Medical Council is not to blame. The Medical Act gave them no power to prevent such multiplication of licenses—a compulsory combination clause would have done so.

The ineffective permissive clause of the present Medical Act gave them no such compulsory powers.

Let me now say something regarding the amendment of the Medical Act. This is a subject which, as every one knows, has occupied the serious attention of the Medical Council for some years. They at a very early period saw that there was a necessity for fresh legislation. They saw especially that the Act had failed to a great extent in preventing unqualified persons from taking medical titles and practising under them with impunity, and that thus the profession was dissatisfied and discredited, and the public deceived. The clause of the Medical Act which enacted or was meant to enact penalties for unqualified persons practising under false medical titles has been drawn up in such a bungling way—or at least was so unsatisfactorily worded—that, in cases of offences against it before the tribunals of justice, there has been more frequently miscarriage than otherwise. The offence was absurdly made to consist in “falsely pretending to be registered under the Medical Act.” The plea of those brought to bar for infringement of it was that they had not so pretended; and this was allowed in many cases by the Judges to be a good plea in bar of conviction. One clever knave at least defeated the Act in a most audacious way by putting his name on his door with any medical or surgical title he might fancy, and adding, “not registered under the Medical Act.” The Council have suggested a clause in lieu of this ineffective one, whereby no person, even when possessing legal qualifications, can practise without being registered, and whereby all unqualified persons practising under falsely-assumed medical and surgical titles may be easily convicted, if, on the production of the Medical Register, their names are not found there. Some unreasonable and ignorant critics blame the Medical Act and the Medical Council for not extinguishing the whole race of quacks in whatever name they rejoice, as if quackery could be put down by any Act of Parliament. Quacks will continue to flourish as long as there are dupes; and when will they cease out of the land? All that legislation can attempt is to prevent the people from being deceived by the false assumption of medical and surgical titles by unqualified persons. If the public choose to go to unqualified persons, knowing them to be such, let them go, as go they will, in spite of all puny efforts at legislation against quackery—*populus vult decipi decipiatur*. The Council have also suggested clauses for rendering registration more effective. They have also, at the suggestion of the Government, provided clauses for enabling Foreign and Colonial degrees to be registered in cases where the Council may see that to be a fit course. There are other clauses needed to enable the Council to institute Boards for Preliminary Examination in each division of the kingdom, and to render compulsory the combination of the Licensing Boards for the purpose of forming Boards in each division of the kingdom for examining for the License in Medicine and Surgery.

It is also expedient, in my opinion, that some modification of the Council itself should be introduced, with the view of widening its basis, and of obtaining for it the confidence of the profession, and a larger amount of interest in its proceedings. The majority of the Council, though they deny the necessity of a modification of the Council if its powers are to remain limited as at present, acknowledge that this would be necessary if the Medical Council is to receive larger and more extensive powers. I would protest against a small Crown-nominated Council, as some critics have suggested. That would be to take away self-government from the profession, and subject it to that which would not be easily borne, a dictatorship—the power falling probably into the hands of one man, who might have the ear of Government. I would have a representative Council, representative of the Universities and Medical Corporations, and of the general body of the registered practitioners, with not fewer members at least than at present. You want something more than a mere limited Executive Committee, you want a deliberative body, which can by free discussion ventilate all questions affecting the profession. Sneer at “talk” as you will, free institutions in a free country cannot be carried on without it. Stifle or limit discussion, and you stifle or limit independence. It is in my opinion a mistake to suppose that limiting the number of the Medical Council, and limiting its freedom of discussion, will expedite business. The Council have done what they could to induce Government to take up the question of the amendment of the Medical Acts, but they have not experienced at the hands of any of the Governments, whether Liberal or Conservative, with which they have been in communication, that consideration which their position, and the great object which they had and have in view, of improving the status of the medical profession, and thus benefiting the public of Great Britain, might well have claimed for them. I have no confidence that any private member could carry a satisfactory Medical Bill; it is only the Government, advised by those who are most competent to advise them amongst the leading men of the profession, that could hope to succeed in an attempt which baffled even men of the calibre of Lord Macaulay, Lord Rutherford, Sir James Graham and others, during the thirty years’ struggle for Medical Reform, and which after all resulted in the hands of Mr Cowper and Mr Walpole (as we have seen) in an inefficient compromise like the Medical Act of 1858. Yet for all that, whatever its shortcomings, that Act and the Medical Council constituted under it, spite of unfair and unjust criticism, have not been altogether barren, not altogether unfruitful in good results to the profession. The members of the Council have been ever since its institution, not, as has been falsely stated by one of its critics, in large proportion elderly gentlemen retired from practice, and consequently not sufficiently cognisant with the present wants of the profession, but they have been, and

are now, men, five-sixths at least of whom are engaged in the active and extensive practice of the profession as physicians, surgeons, and general practitioners, and who have represented all the various branches of the profession. Even Obstetrics have not been neglected, though a most bizarre claim has been made by obstetric practitioners to have special obstetric representatives on the Medical Council. What next? With regard to those who have been and are now members of the Council, many of them have made large pecuniary and other sacrifices in fulfilling the arduous and responsible duties committed to them. They have had to bear the brunt of inaugurating a new *régime*—a task of no light nature; they have had to run the gauntlet of criticism—no light matter either. Should their office, I would ask, be made a thankless one by unjust criticism? It is easy for irresponsible critics, sitting in their arm-chairs in secret, and wielding masked the dignity of the anonymous *we*, to pick holes in the conduct of men placed in a responsible position, performing their duties openly before the whole profession—men whom in the execution of their functions they have not scrupled to accuse of having selfish objects, whether personal or corporate, it matters not which, to carry out. It is right that the Medical Council should be placed in its true light before the profession, and that its fair fame should be rescued from the misrepresentations, disparagements, and insinuations of those who are doubtless entitled to criticise it, but who are bound to do so, if not generously, at least justly and fairly.

My object in the above remarks has been by a plain tale, which might easily have been amplified, to vindicate for the Council its true position. In doing so, I trust that I have not allowed myself to be blinded to its faults on the one hand, nor to ignore its merits on the other. I trust, in fine, that I have demonstrated that those who falsely accuse the Medical Council of “doing nothing but indulging in talk and personal reflections,” are themselves indulging in talk and reflections which they are not warranted in using, and which are unmerited as regards the Council.

ARTICLE V.—*On the Employment of Hare-lip Suture in the Treatment of Vesico-vaginal Fistula.* By PATRICK HERON WATSON, M.D., F.R.S., F.R.C.S.; Lecturer on Surgery; Surgeon to the Royal Infirmary and the Chalmers Hospital for Sick and Hurt, Edinburgh.

THE treatment of vesico-vaginal fistula has been so often made the subject of practical and literary illustration, that I daresay it may seem impossible to add to it a single further suggestion. In the case I am about to narrate, the novelty consisted in employing the hare-lip suture instead of the common interrupted suture with wire.

Marjory P., æt. 21, was admitted to the Chalmers Hospital under Dr Watson's care upon the 27th of June 1869. She had been sent to Edinburgh by Dr Guthrie of Brechin, and was recommended to the hospital by Dr Matthews Duncan, by whom she had been seen in the first instance.

Some months before admission, she had been delivered, with difficulty, after a tedious and lingering labour. During the first few days of her recovery an involuntary escape of urine commenced, which has continued ever since. The patient has recovered in every other respect, except that the urine trickles continuously from the vagina, excoriating the vulva and thighs. Placing the patient on her knees upon a table, and introducing the duck-bill speculum, the aperture communicating between the bladder and vagina was at once fully exposed. It was transverse in its axis, situated just above the vesical extremity of the urethra, gaping widely, and large enough to admit three fingers.

1st July.—The patient, having been deeply placed under the influence of chloroform, was laid in a prone position upon a wedge-shaped cushion, formed of six pillows tied together with a piece of bandage. The limbs hung down over the end of the table and were attached to the legs of the table by loop-bandages, the head turned sideways and supported by a pillow rested upon the table. The duck-bill speculum was introduced and maintained in position throughout the operation by Dr Miller. The operative procedure consisted in cutting through the walls of the vagina parallel with the outline of the fistula and at about an eighth of an inch from the free margin of the cicatricial tissue forming the edge of the aperture. These two curvilinear incisions met at their extremities, and thus included an ovoid. Having dissected the texture as far as the vesical coats, and separated the vaginal textures from the vesical for a short distance, I introduced a pair of toothed forceps up the urethra and laid hold of the fleshy margins of the aperture, now attached alone to the bladder, and drawing them towards the cavity of the viscus, kept them away from the raw edges of the vaginal aspect of the fistula. I then introduced three 4-inch acupuncture pins, penetrating with their points the whole thickness of the vaginal tissues bounding the raw margin, the points of entrance and exit being more than half an inch from the edges of the opening. Thick silk twist was then carried round each of the needles separately in the form of a figure of 8 by means of a straight blunt instrument with an eye at the extreme end. As the silk was carried round the needle, gentle traction brought the edges into perfect apposition. When all three sutures were completed the vagina remained perfectly dry, not a drop of urine escaping. A narrow strip of lint, interposed between the vaginal walls and the points of the needles, completed the operation.

The patient was conveyed to bed, and a sigmoid soft metal catheter introduced.

2d.—Patient free from pain or fever, no urine escapes except by the catheter.

7th.—One of the needles is loose and has come away.

9th.—The two remaining needles loose and removed by rotation and traction. Catheter removed.

10th.—Some urine trickles through the vagina.

20th.—No urine escapes involuntarily. Patient makes water not oftener than every four hours.

13th August.—On examining the patient yesterday, a linear cicatrix, with a dimple crossing it in the situation of each of the needles, alone marks the site of the fistulous opening. The patient is perfectly well. She does not make water more frequently than every six hours, and sleeps soundly all night without requiring to rise to micturate.

In operating for vesico-vaginal fistula on former occasions, I have always employed the tubular needle and silver-wire sutures. The present method of stitching in this situation, whereby hare-lip sutures take the place of wire, gives more ease of introduction, of tightening-up, and removal, than the wire affords, while the steady resistance opposed by the needles seems to keep the parts in such a comparative state of repose as to secure all the advantages which the bar suture or the wire-splint suture were supposed to effect.

There can be no difficulty in any case of vesico-vaginal fistula situated in the lower two-thirds of the vaginal *cul-de-sac* in employing hare-lip pins in the way described. The aperture is always transverse in its long axis, and thus admits of the needles being introduced in the long axis of the vagina. Were the opening parallel with the long axis of the vagina, hare-lip pins could not of course be employed. The transverse direction of the fistula affords a strong corroboration to the doctrine which attributes the formation of a vesico-vaginal fistula to long-continued unrelieved pressure of the head of the child against the pelvic bones, and not to the use of instruments. Were the fistula occasioned by instruments, we should expect it to be longitudinal, not transverse, in its direction. Produced by the pressure of the head against the pelvic bones, it is analogous in its formation to that of bed-sores upon the surface. When the fistula is situated in the upper third of the vagina, it would be scarcely possible to effect the introduction of hare-lip pins, whether the posterior lip of the cervix uteri were engaged or not in occupying the gap.

In securing the edges of the fistulous aperture, I have found it advantageous on previous occasions not to cut entirely through the walls of both the vagina and bladder so as to excise the cicatricial margin, but only to pare off the cicatricial edge from the vaginal tissue, and then, leaving it continuous with the vesical coats, to infold this portion of texture towards the bladder, where it remains, becoming ultimately united to the opposite inverted edge, and thus, by thickening the cicatrix, strengthens the bond of union between the cohering parts.

ARTICLE VI.—*On the Action of the Cobra Poison.* By J. FAYRER, M.D., F.R.S.E., C.S.I.; Surgeon, Bengal Army; Professor of Surgery in the Medical College of Bengal.

(Continued from page 248.)

EIGHTH SERIES—*continued.*

Present—Dr Fayrer and Mr Sceva.

EXPERIMENT No. 15.—*Sept.* 28.—At 1.17 P.M., a fowl, half-grown, was bitten in the thigh by a daboia; convulsed immediately, and dead in 35 seconds.

EXPERIMENT No. 16.—Blood drawn from the heart of the fowl in experiment No. 15 (two hypodermic syringefuls), about 5i., injected into the thigh of another half-grown fowl at 1.22 P.M. 7.15.—No effect of the poison perceptible as yet. *Sept.* 29, 6 A.M.—Crouching; profoundly drowsy. Head resting on beak; falls over as if the bird had gone off into a sound sleep; starts up and falls over again, like a creature that cannot keep awake. In this state it remained, got more drowsy, and died at 2.40 P.M.

EXPERIMENT No. 17.—*Sept.* 29.—At 2.50 P.M., a half-grown chicken was injected in the thigh with ten drops of the blood of the chicken of experiment No. 16. *Sept.* 30, 2 P.M.—Appears to be slightly affected; feathers ruffled; tail depressed; not so active as it was. *Oct.* 2.—It recovered, having been only very slightly affected.

EXPERIMENT No. 18.—*Sept.* 28.—A half-grown fowl was bitten in the thigh at 12.15 A.M. by a very vicious and active cobra (one that had killed a child, and was itself the subject of experiment on the 26th). The fowl became convulsed immediately, and was quite dead in about 34 seconds.

The muscles generally and heart were found to be without any irritability in a few minutes after death. The blood coagulated firmly.

EXPERIMENT No. 19.—Two syringefuls of the blood of the fowl in experiment No. 18 were injected into the thigh of a full-grown and strong fowl at 12.25 A.M., September 28. 12.17.—It seemed much excited; this passed off, and at 1.26 P.M. it seemed very little affected, except that it was purged. 2 P.M.—Appears drowsy. 2.30.—Effects of the poison are manifest; wings drooping. It crouches, resting the point of the beak on the ground. 3.—Crouching on the ground; body inclined to one side. One leg partly extended, with wing extended over it. 3.30.—Lying down,

with wings partially extended; a small quantity of liquid running from the beak. Head lying on the ground; nearly insensible. 3.56.—Dead.

EXPERIMENT No. 20.—*Sept.* 28.—About twenty-five drops of blood, taken from the heart of the fowl of experiment No. 19, injected into the thigh of a half-grown chicken at 3.56 p.m. At 7.15 p.m. no change, except slight lameness from the puncture in the leg. *Sept.* 29.—No change; no symptom of being affected by the poison. *Sept.* 30, 2 p.m.—Chicken remains unaffected. *Oct.* 2.—Chicken well.

After September 29 the chicken did not seem to be affected in any way by the injection, until October 5, when it appeared weak, and passed the latter part of the day with its head partly under its wing. It has eaten heartily during the time since September 29, and appeared as lively as the other chickens that were kept in the room with it. It died on the following day, October 6, and on examining the body it was found to be greatly emaciated. No trace of any other injury or disease, except the poisoning of the blood, could be discovered.

EXPERIMENT No. 21.—*Sept.* 29.—An *Ophiophagus* elaps, about 8 feet long, that had been deprived of its fangs by the snake-men, was made to shed its poison by squeezing the jaws; a drop or two of clear, yellow, viscid fluid exuded. This, diluted with water, was inoculated into a fowl's thigh. A puncture was first made with a lancet, and the poison was introduced with an ordinary quill pen. For the first two or three minutes no apparent effect was produced; the bird walked about as usual. It then began to look uncomfortable; stood still; seemed dazed; sat down and soon crouched itself together; began to droop, to nod its head, and rest its beak on the ground. This state of drowsiness gradually increased; it seemed to be profoundly sleepy, attempting to rouse itself with a start, and falling off again into a profound state of narcotism. At 12.30 it was almost unconscious, and could not rise on its legs; when roused, opened its eyes, made an attempt to raise the head, which fell over again. Its condition seemed to be in all respects one of profound narcotism. 12.37.—A few convulsive movements only indicate life. 12.40.—Still a few convulsive movements and stretching of the neck. 12.46.—Dead. The wound much discoloured and ecchymosed; emphysema of the areolar tissue about it. The blood clotted firmly after death. At 1.40 p.m. some of the blood (half a syringe, 15 drops) was injected into the thigh of another fowl. *Sept.* 30, 2 p.m.—More than 24 hours, and it is not affected; eats heartily; looks bright and active. The quantity of blood injected was very small. *Oct.* 2.—Quite well.

This, imperfect as it is, is the first opportunity I have had of

experimenting with the poison of this snake; it is rare; and the snake-catchers have not been able to procure me a fresh and wild specimen. The snake experimented with has been for some time in the hands of the snake-catcher. The man who brought it had borrowed it from a friend, and he was unable to say how long it had been in captivity, or where it had been caught. This *Ophiophagus elaps* is the largest kind of poisonous colubrine snake, and a very formidable and terrible creature it is. In general form it resembles the cobra, having the head and hood similarly shaped. Its fangs are like those of the cobra, and its venom is said to be equally deadly in proportion to its size. It is very active and aggressive, has great power of turning itself in a short space on its own body, and when about to attack, assumes the same erect and menacing attitude as the cobra.

In colour it differs from the cobra, being of an olive-green, and marked with triangular bars of white edged with black, which are very conspicuous on the hood and tail. The hood is proportionately not so large as in the cobra, and there are other unimportant anatomical differences which I need not detail here. It attains to a great size, 12 feet or even more, and is therefore probably one of, if not the largest poisonous snakes known. There is only one species of the genus which has received its name from its habit of feeding on other snakes.

“*Superne olivaceo viridis, striis saggittalibus nigris
Cinctus, abdomine glauco-nigro marmorato.*”—*Cantor.*

It is said to be very dangerous and aggressive (Dr Cantor says “it is very fierce, and is always ready not only to attack, but to pursue when opposed”); and stories are told—I know not if truly—that it has chased men for hours when disturbed in its native haunts. It has a variety of synonymes; *Ophiophagus elaps* (Bengalee name *Sunkr Choar*); *Naja bungarus*; *Naja elaps*; *Naja vittata*; *Hamadryas ophiophagus*; *Trimeresurus ophiophagus*; *Hamadryas elaps*.

Such are the synonymes given from different authorities by Gunther. The first is the one by which it is generally recognised by naturalists in the present day. It has a wide geographical distribution, and is found in Bengal, though I have not yet ascertained the localities in this province that it most affects. The snake-catchers say it is to be found in the Soonderbuns and other dense and secluded jungle, and that it is difficult and dangerous to capture. It is certainly found in Burmah and the Tenasserim Provinces and Assam. Gunther speaks of three varieties: the one experimented with, found in the Malayan Peninsula, Bengal, Peninsula of Southern India; another in the Philippine Islands; a third in Borneo.

These are merely varieties, and are distinguished by some difference in colour. It has, Gunther says, been found in every part

of the Indian continent—in the Andaman Islands, Java, Sumatra, Borneo, and the Philippine Islands; and, according to Dumercil, in New Guinea. It inhabits hollow trees, and is sometimes found between their branches. Its food, as its name implies, consists of other snakes.

Present—Dr Fayrer and Mr Sceva.

EXPERIMENT No. 22.—*Oct. 2, 1868.*—The *Ophiophagus* elaps, mentioned in experiment No. 21, September 29, that had been deprived of its fangs, was made to shed its poison by squeezing the poison-glands; a drop or two only could be obtained, so much having been secreted in four days. It had the same appearance as on the first occasion. This, diluted with an equal quantity of water, was injected with the hypodermic syringe into a fowl's thigh at 12.30 A.M. The fowl was not immediately affected, and, being carelessly placed near an open door, it made its escape into a drain, in which, as it did not emerge, I presume it died. The opportunity of watching the effects of the poison was lost; but the experiment is interesting, as it shows that the poison is secreted although the poison-fangs are removed, and it shows the rate at which it was secreted—about two drops in four days. The snake had not been fed, but on this occasion it was fed with a *Passerita mycterezens* (a green whip-snake), that was poisoned by a cobra (*vide* experiment No. 23). The snake-man put the head of the dead snake into the ophiophagus's mouth; it seemed delighted to have it, and proceeded to swallow it forthwith, gradually drawing it into its gullet by alternate lateral movements of the lower maxillary bones. The process of swallowing occupied about five minutes, during which the ophiophagus moved slowly about with the anterior part of his body raised and his hood distended, the passerita hanging out of its mouth. The last few inches of the tail were swallowed more slowly than the rest. A second passerita being offered shortly after was declined, and its head ejected from its mouth.

EXPERIMENT No. 23.—A green whip-snake, more than three feet long (*Passerita mycterezens*), was bitten by a cobra, about ten inches from the head, at 12.37 A.M. At 12.38, sluggish; moves less actively; gapes, keeping the mouth wide open. 12.39.—Almost paralyzed; mouth now closed; head lying on the side. The body is swollen where bitten. 12.40.—Dead.

Death was very rapid; a peculiarly active and vigorous, though innocuous snake, killed in two minutes by the poison of the cobra.

EXPERIMENT No. 24.—At 12.48 P.M., a cobra bit a cobra in three places near the head. They were both vigorous, fresh, and full-grown. 1.10 P.M.—Appears rather sluggish. At 1.11 this

bitten cobra bit a fowl in the thigh; it died in four minutes (*vide* experiment No. 28). I should note that it had been partially exhausted by biting the passerita, which it killed in two minutes. 1.16.—Appears rather sluggish as it lies on the floor. At 1.35 it appears in its natural state; raises its head, expands the hood, and strikes when threatened. At 1.43 it was bitten severely in the body, about a foot from the head, by a daboia, one of those that have been some time in confinement. At 1.47 it appeared to be affected; was sluggish, and lay with its hood shrunken and its skin shrivelled. It is possible that in presenting it to the daboia to be bitten, it may have been squeezed, but it did not appear so. It remained in this sluggish state, and was dead at 4.10 P.M.

EXPERIMENT No. 25.—A *Passerita mycterezens* (green whip-snake), rather smaller than the former one, bitten in the body at 1.40 P.M. by a daboia. At 1.45 almost powerless. It gradually became more and more exhausted, gaped like the one bitten by the cobra, and was dead at 2.2 P.M., or in seventeen minutes.

The daboia was one of those long in confinement, and had no doubt become exhausted.

EXPERIMENT No. 26.—A large black cobra bitten in the body by a daboia at 1.52 P.M., October 2, at about a foot from the head. At 2.20 no change. Oct. 3, 6 A.M.—No change.

EXPERIMENT No. 27.—A full-grown cobra bitten by a daboia in the body at 2.4 P.M. At 2.20 no change. Died at 10.30, October 4.

EXPERIMENT No. 28.—A half-grown fowl was bitten in the thigh by a cobra at 1.11 P.M. At 1.11,45 it crouched, drooped its wings, rose, staggered, and dropped down. At 1.13 drooped its wings; rested on its breast, with the point of its beak on the ground. 1.14.—Convulsed and dying. 1.15.—Dead. Died in four minutes.

The cobra was not quite fresh; it had bitten the passerita, and had itself been bitten by another cobra before biting the fowl.

EXPERIMENT No. 29.—At 1.25 about four drops of the blood of the above fowl (experiment No. 28) were injected into the hind-quarters of a *Sorex carulescens* (musk-rat). At 1.35 eating a portion of the dead fowl, apparently not affected, unless it may be perhaps rather sluggish. At 5.30 A.M. of 3d October the musk-rat found dead; appeared to have been dead two or three hours; no sign of any injury, but the syringe puncture in the thigh apparent.

The evidence of experiments Nos. 1, 2, 3, 11, 14, 26, goes to show that the cobra and the daboia are not affected by each other's or by their own poison.

The experiments Nos. 24, 27, on the other hand, would prove that the cobra succumbs to the daboia. If such really be the case, it is probable that any one poisonous snake will affect another, and that consequently the cobra would poison the daboia. The subject is still, therefore, not set at rest, and more experiments only can decide it.

There is abundant evidence to prove that the innocuous are rapidly affected by the venomous snakes, and that such is the case may be considered as decided, though, no doubt, the poison tells less rapidly or fatally on them than on warm-blooded animals.

It will probably prove to be still less active in the invertebrata, but this has yet to be tried. That the venomous snakes themselves are affected by other poisons, is proved by the rapidity with which they succumb to strychnia and carbolic acid. The weight of evidence, so far, would show that the venomous snakes are, if not proof against, at least not readily affected by, each other's poison. The matter, however, remains still *sub judice*.

(*To be continued.*)

ARTICLE VII.—*Case of Unilateral Paralysis Agitans.* By STANLEY L. HAYNES, M.D., Medical Superintendent of Laverstock House Asylum, Salisbury.

(*Read before the Salisbury Medical Society on the 3d March 1869.*)

J. Y., aged 56, lately a sexton, and for many years a policeman, a stout, florid, hale-looking man, states he has always been temperate, and gives the following history of his case. He enjoyed good health until 1858, when he had an attack of acute rheumatism, which left much pain in his right hip and caused him to "scuff" or drag the foot of that side in walking. This pain has continued until now, but is not so bad as at first; it is worse when he lies on that side, and seems to be in the bone. Three years ago he first had a sensation of the right toes being drawn up, and found they shook; the shaking gradually became worse, and extended up the leg and side, down the arm, and into the right hand. The agitation of his foot was much worse about two and a half years ago than at present, but his hand and arm are now considerably more affected than at that time. The right side of his lips and tongue began to quiver about six months ago, and became worse till four months since; from that date their agitation has gradually diminished until now, when he has it occasionally and slightly: their trembling made the pronunciation of some words difficult, but he never found food lodging in the right cheek. Four months ago the right foot and leg became, for the first time, very oedematous during two days, but then resumed their natural appearance. The left side

has never been unnatural. The patient never was a drinker of strong tea or coffee.

The right side is much affected with paralysis agitans, which is of the usual character, being increased by mental emotions, and ceasing for a time after movement, and then gradually becoming marked, but not very severe. The voluntary motion and sensation of both the feet and hands are unimpaired, but the right side is much the weaker. The patient has no difficulty in using his right hand in cutting food or in raising it to his mouth, but he cannot shave with it. The head is usually free from agitation. The tongue is occasionally extruded towards the right side, and sometimes trembles. There is not any paralysis of the face when in action; four months ago it had, when at rest, an *appearance* of being paralyzed equally on both sides—this want of tonicity was not natural to him, and has now ceased. The senses of hearing, smelling, and taste appear to be unimpaired. All the external muscles of the eyes act naturally. There is not any exophthalmos. Arcus senilis is bilateral and equally marked, and almost limited to the superior arcs of the corneæ. The right pupil is sometimes considerably larger, and is then less sensible to light than the left, but the patient sees very much better with his right eye; he accidentally discovered, many years ago, he could not see so well with his left eye, which does not seem to have changed since then, and in which a lenticular cataract is forming. There is not any aphasia. The cardiac sounds are normal; pulse 84, regular, of fair strength. The temperature in the right axilla is 99° F.; in the left axilla and under the tongue, 98°. The right temporal region is sometimes warmer than the left; this is when the right pupil is dilated, the lips and tongue quiver, and the head shakes a little, *i.e.*, when the patient's emotions are active; at such times the agitation of the right limbs is greater than usual, and is communicated to the left, which otherwise remain unaffected; the left hand is then used to hold the right, and the right leg is kept tolerably steady by the left being crossed over it. This condition was more frequent last October than now; when the patient is in bed or has been seated for some time during the evening, and has nothing particular to think of, all agitation of his limbs occasionally ceases. The urine has a specific gravity of 1020, is of normally acid reaction, natural quantity and colour, is non-albuminous, and deposits triple phosphates (which are in excess) and amorphous urates; it also contains a few oil globules and a considerable quantity of vesical epithelium. After being kept twenty-four hours it contains a few torulæ and crystals of uric acid. There is not any œdema.

The patient feels better and stronger than he did last year, and thinks he sees better. The trembling of his affected limbs is certainly less severe than in October last, when I first examined him, and when he never had any remissions of his palsy. He then complained of a ring of uncomfortable coronal sensation; this has

passed off, and the only disorder he mentions is slight neuralgia of the ascending branch of the left temporal nerve. He has not any mental weakness, as is proved, to a certain extent, by the history he gives of his case and hereditary tendencies.

The family history is interesting. The patient states his paternal grandmother was "very nervous," and that his father and his deceased sister were "nervous," and had shaking of their hands. Another sister is very nervous, and has had two attacks of acute mania, the first at 40, the second at 42 years of age, fifteen and thirteen years ago, the second time being in an asylum; she is still very excitable, has shaking of both hands and head, and distinct quivering of her lips. His brother died suddenly of apoplexy after feasting, aged 44; he had been ailing for two or three years, but never had any trembling of the limbs. His mother died three days after a seizure, without recovering consciousness; a year before she had had a slight apoplectic attack; a sister of hers had three such attacks, and was paralyzed in the right side. The grandfather, father, brother, and the two above-mentioned sisters of the patient were or are very stout; three other sisters are very thin, are not nervous, and have never been affected by any trembling of the extremities or head. His own children have not manifested paralytic tendencies; one, an adolescent, died of phthisis.

From the perusal of an interesting case of paralysis agitans under the care of Dr Ramskill, cited by Dr Bazire,¹ and from the experience recorded in Dr Sanders's excellent contribution in Reynolds's "System of Medicine," it appears highly probable the case I have now narrated is imperfect—that it will become one of general, ordinary paralysis agitans. According to Trousseau's view, the patient whose case I have now described suffers from the commencement of an intractable² malady, which must extend to the rest of his system; but the history of this case shows the jactitation began in the toes of the right foot three years ago, and that not only has the affection not comprised the left side, but it is not so severe now as in October last.

¹ In an annotation in his translation of Trousseau's "*Clinique Médicale*," p. 449 (New Sydenham Society's issue).

² See the same foot-note.

INFORMATION REGARDING MEDICAL EDUCATION AND EXAMINATIONS.

THE following are the Regulations of the General Medical Council on the subject of Medical Education and Examinations:—

I.—PRELIMINARY EXAMINATIONS.

1. That Testimonials of Proficiency, granted by the National Educational Bodies according to the subjoined list, may be accepted, the Council reserving the right to add to, or take from, the list.

List of Examining Bodies whose Examinations fulfil the Conditions of the Medical Council, as regards Preliminary Education.

(1.) UNIVERSITIES OF THE UNITED KINGDOM.

Oxford.—Examination for a Degree of Arts. Responsions. Moderations. Local Examinations (Senior), Certificate to include Latin and Mathematics.

Cambridge.—Examination for a Degree in Arts. Previous Examination. Local Examinations (Senior), Certificate to include Latin and Mathematics.

Durham.—Examination for a Degree in Arts. Examination for Students in their second and first years. Registration Examination for Medical Students. Local Examinations (Senior), Certificate to include Latin and Mathematics.

London.—Examination for a Degree in Arts. Matriculation Examination.

Aberdeen, Edinburgh, Glasgow, and St Andrews.—Examination for a Degree in Arts. Preliminary Examination for Graduation in Medicine or Surgery. Examination of (Senior) Candidates for Honorary Certificates under the Local Examinations of the University of Edinburgh.

Dublin.—Examination for a Degree in Arts. Entrance Examination.

Queen's University (Ireland). Examination for a Degree in Arts. Entrance Examination. Examination for the Diploma of Licentiate in Arts. Previous Examination for B.A. Degree.

(2.) OTHER BODIES NAMED IN SCHEDULE (A) TO THE MEDICAL ACT.

Royal College of Surgeons of England.—Examination conducted, under the Superintendence of the College of Surgeons, by the Board of Examiners of the Royal College of Preceptors.

The Society of Apothecaries of London.—Examination in Arts.

Royal Colleges of Physicians and Surgeons, Edinburgh.—Preliminary Examination in General Education, conducted by a Board appointed by these two Colleges combined.

Faculty of Physicians and Surgeons of Glasgow.—Preliminary Examination in General Literature.

Royal College of Surgeons in Ireland.—Preliminary Examination, Certificate to include Mathematics.

Apothecaries' Hall of Ireland.—Preliminary Examination in General Education.

(3.) EXAMINING BODIES, IN THE UNITED KINGDOM, NOT INCLUDED IN SCHEDULE (A) TO THE MEDICAL ACT.

Royal College of Preceptors.—Examination for a First Class Certificate.

(4.) COLONIAL AND FOREIGN UNIVERSITIES AND COLLEGES.

Universities of Calcutta, Madras, and Bombay.—Entrance Examination, Certificate to include Latin.

McGill College, Montreal.—Matriculation Examination.

University of Toronto, King's College, Toronto, Queen's College, Kingston, Victoria College, Upper Canada.—Matriculation Examination.

King's College, Nova Scotia.—Matriculation Examination. Responsions.

University of Fredericton, New Brunswick.—Matriculation Examination.

University of Melbourne.—Matriculation Examination, Certificate to include all the subjects required by the General Medical Council.

University of Sydney.—Matriculation Examination.

Codrington College, Barbadoes.—1. English Certificate for Students of two years' standing, specifying the subjects of Examination. 2. Latin Certificate, or "Testamur."

Tasmanian Council of Education.—Examination for the Degree of Associate of Arts, Certificate to include Latin and Mathematics.

Christ's College, Canterbury, New Zealand.—Voluntary Examination.

2. That it be recommended to the Licensing Boards not to accept the Certificate of Proficiency in General (preliminary) Education from any of the Bodies, the names of which are contained in the list annually circulated, unless such Certificate testify that the Student to whom it has been granted has been examined in:—1. English Language, including Grammar and Composition.¹ 2. Arithmetic, including Vulgar and Decimal Fractions. Algebra, including Simple Equations. 3. Geometry—First two books of Euclid. 4. Latin, including Translation and Grammar.

And in one of the following optional subjects:—Greek. French. German. Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics.

3. That students who cannot produce any of the Testimonials referred to in the first Recommendation be required to pass an Examination in Arts, established by any of the Bodies named in Schedule (A) to the Medical Act, and approved by the General Medical Council.

4. That the Examination in General Education be eventually left entirely to the Examining Boards of the National Educational Bodies recognised by the Medical Council.

5. That after 1868, all Examinations be removed from the list of those recognised which do not in all respects come up to the minimum which the Council laid down in 1866.

6. That the various Educational and Licensing Bodies be requested to transmit to the Registrar of the General Council, Returns, embodying any alterations which they may from time to time introduce into their Courses of General Study and Examinations which qualify for the Registration of Medical Students; and that a copy of such Returns be sent by the Registrar, as soon as convenient, to each Member of the General Council.

7. That Certificates of Proficiency, to be received from all Bodies legally authorized to examine in General Education in Great Britain and Ireland, and from the several Licensing Bodies enumerated in Schedule (A) to the Medical Act in Great Britain and Ireland, shall bear evidence that the Candidates have been examined and approved in at least the above subjects.

8. That in the case of Certificates received from similar Educational and Licensing Bodies in other parts of the Empire and Foreign countries, satisfactory evidence shall be given to the Medical Council, or Branch Councils, that such Certificates are equivalent to those recognised in the United Kingdom.

9. That it shall be delegated to the Executive Committee to prepare annually and lay before the Council for recognition a list of Examining Bodies, whose Examinations shall fulfil the conditions of the Medical Council as regards Preliminary Education.

II.—REGISTRATION OF MEDICAL STUDENTS.

1. Every Medical Student shall be registered in the manner prescribed by the General Medical Council.

¹ The General Medical Council will not consider any Examination in English sufficient that does not fully test the ability of the Candidate.—1st, To write a few sentences in correct English on a given theme, attention being paid to spelling and punctuation as well as to composition. 2d, To write a portion of an English author to dictation. 3d, To explain the grammatical construction of one or two sentences. 4th, To point out the grammatical errors in a sentence ungrammatically composed, and to explain their nature. 5th, To give the derivation and definition of a few English words in common use. Provided always, that an Examination may be accepted as satisfactory that secures, on the part of the Candidate passing it, a sufficient grammatical knowledge of English.

2. No Medical Student shall be registered until he has passed a Preliminary Examination, as required by the General Medical Council.

3. The commencement of the course of Professional Study recognised by any of the Qualifying Bodies, shall not be reckoned as dating earlier than fifteen days before the date of Registration.

4. The Registration of Medical Students shall be placed under the charge of the Branch Registrars.

5. Each of the Branch Registrars shall keep a Register of Medical Students according to the subjoined Form :—

Form for the Registration of Medical Students.

Date of Registration.	NAME.	Preliminary Examination and Date.	Place of Medical Study.

6. Every person desirous of being registered as a Medical Student shall apply to the Branch Registrar of the division of the United Kingdom in which he is residing, according to the annexed Form, which may be had on application to the several Qualifying Bodies, Medical Schools, and Hospitals; and shall produce or forward to the Branch Registrar a Certificate of his having passed a Preliminary Examination, as required by the General Medical Council, and a statement of his place of Medical Study.

Form of Application for Registration as a Medical Student.

I hereby apply to be registered as a Student in Medicine, in conformity with the Regulations of the General Council of Medical Education and Registration of the United Kingdom, for which purpose I submit the following particulars :—

NAME OF APPLICANT. (To be written in words at length.)		Preliminary Examination.	Date of Preliminary Examination.	Place of Medical Study.
Surname.	Christian Name.			

Applicant's Signature ———.

Address ———.

Date of Application ———.

To the Registrar of the Branch Council for ———.

N.B.—The above Form of Application, duly and legibly filled up, must be forwarded to the Registrar, post free, and be accompanied by a Certificate of the Applicant's having passed a Preliminary Examination, as required by the General Medical Council; and a statement of his place of Medical Study.

The Certificate of Examination must testify that the Student has been examined in,—1. English Language, including Grammar and Composition; 2. Arithmetic, including Vulgar and Decimal Fractions; Algebra, including Simple Equations; 3. Geometry—First two books of Euclid; 4. Latin, including Translation and Grammar. And in one of the following optional subjects :—Greek; French; German; Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics.

7. The Branch Registrar shall enter the Applicant's name and other particulars in the Students' Register, and shall give him a Certificate of such Registration.

8. Each of the Branch Registrars shall supply to the several Qualifying Bodies, Medical Schools, and Hospitals, in that part of the United Kingdom of which he is Registrar, a sufficient number of blank Forms of Application for the Registration of Medical Students.

9. The several Branch Councils shall have power to admit special exceptions to the foregoing regulations as to Registration, for reasons which shall appear to them satisfactory.

10. A copy of the Register of Medical Students, prepared by each of the Branch Registrars, shall be transmitted, on or before the 31st December in each year, to the Registrar of the General Council, who shall, as soon as possible thereafter, prepare and print, under the direction of the Executive Committee, an Alphabetical List of all Students registered in the preceding year, and supply copies of such authorized list to each of the Bodies enumerated in Schedule (A) to the Medical Acts, and through the Branch Registrars to the several Medical Schools and Hospitals.

11. The several Qualifying Bodies are recommended not to admit after October 1870, to the final Examination for a Qualification under the Medical Acts, any Candidate (not exempted from Registration) whose name had not been entered in the Medical Students' Register at least four years previously.

In the case of Candidates from other than Schools of the United Kingdom, the Branch Councils shall have power to admit exceptions to this recommendation.

The Branch Councils are desired to take means to make these regulations known to the Medical Students at the various Medical Schools.

III.—AGE FOR LICENSE TO PRACTISE.

1. That the age of twenty-one be the earliest age at which a Candidate for any Professional License shall be admitted to his final Examination; that the age shall, in all instances, be duly certified; and that a Return of any-exceptions to this recommendation allowed by the Licensing Bodies, together with the reasons for such exceptions, be transmitted to the Branch Council of that part of the United Kingdom in which they have been granted.

2. That no License be obtained at an earlier period than after the expiration of forty-eight months subsequent to the Registration of the Candidate as a Medical Student.

IV.—PROFESSIONAL EDUCATION.

1. That the course of Professional Study required for a License shall comprehend attendance during not less than four Winter Sessions, or three Winter and two Summer Sessions, at a School recognised by any of the Licensing Bodies mentioned in Schedule (A) to the Medical Act.

2. That the following are the subjects without a knowledge of which no Candidate should be allowed to obtain a qualification entitling him to be registered:—1. Anatomy. 2. General Anatomy. 3. Physiology. 4. Chemistry. 5. Materia Medica. 6. Practical Pharmacy. 7. Medicine. 8. Surgery. 9. Midwifery. 10. Forensic Medicine.

Chemistry should include a knowledge of the principles of Chemistry, and of those details of the science which bear on the study of Medicine.

Medicine and Surgery should include a knowledge of Systematic and Clinical Medicine and Surgery, and also of Morbid Anatomy.

3. That it be recommended to the several Licensing Bodies that the courses of instruction required by them be framed in such a manner as to secure a due share of attention, both to preparatory branches and to those more strictly connected with the Practice of Medicine and Surgery; and that it be suggested accordingly to these Bodies, that their regulations should be such as

to prevent attendance upon Lectures from interfering with Hospital and Clinical Study.

4. That the Council will view with approbation any encouragement held out by the Licensing Bodies to Students to prosecute the study of the Natural Sciences before they engage in studies of a strictly professional character.

V.—PROFESSIONAL EXAMINATION.

1. That it is desirable that the different Licensing Bodies should combine their Examinations, when this is practicable, so as to secure that the knowledge of every Practitioner whose name appears on the Register shall have been tested in all the subjects of Professional Education which the Council has determined to be essential, viz.:—1. Anatomy. 2. General Anatomy. 3. Physiology. 4. Chemistry. 5. Materia Medica. 6. Practical Pharmacy. 7. Medicine. 8. Surgery. 9. Midwifery. 10. Forensic Medicine.

2. That those Licensing Bodies which have not already done so, be requested to furnish a statement of the dates of their Examinations and of the modes in which such Examinations are conducted, whether by written, oral, or practical Examination, and of the length of time a Candidate is under Examination in each or all of these ways: and that the Registrar transmit these Reports to the Members of the Council, in order that they may be taken into consideration at the next meeting of the several Branch Councils.

3. That the Professional Examination for any License be divided into two parts; the first embracing the primary or fundamental branches directly connected with the practice of Medicine and Surgery; that the former be not undergone till after the close of the Winter Session of the second year of professional study; and the latter, or final Examination, not till after the close of the prescribed period of professional study.

4. That the Examination in Physics, Botany, and Natural History may be undergone at an earlier period than the first Professional Examination.

5. That the Professional Examinations be conducted both in writing and orally; and that they be practical in all branches in which they admit of being so.

6. That not less than two Examiners, or one Examiner with an Assessor, should be present at every Oral Examination.

7. That the Oral Examinations should be so far public as to be open at least to the Medical and Surgical Graduates, or members of the Examining Body.

8. That the questions to be answered in writing should be so numerous, and embrace such a variety of the details of each subject, as may adequately test the proficiency of the Candidate; and that they should be submitted to the whole body of Examiners for consideration and revision, if desirable, before being proposed to the Candidates.

9. That the written answers should be submitted to more than one of the Examiners.

10. That excellence in one or more subjects should not be allowed to compensate for failure in others.

11. That if a Candidate be rejected for failure in any one subject, he should be re-examined in all.

12. That Examiners should only be elected for definite periods, with power of re-appointment.

13. That the Professional Examinations be held by the several Licensing Bodies, except in special cases, at stated periods, to be publicly notified.

14. That returns from the Licensing Bodies in Schedule (A) be made annually, on the 1st of January, and in the subjoined form, to the General Medical Council, stating the number and names of the Candidates who have passed their first as well as their second and third Examinations, and the number of those who have been rejected at the first and second and third Examinations respectively; and that the Registrar forward a sufficient number of forms, with a notice for their being returned in due time.

Table of Return of Professional Examinations, and their Results.

LICENSING BODIES.	QUALIFICATIONS.	NO. PASSED.			NO. REJECTED.		
		1st Exam.	2d Exam.	3d Exam.	1st Exam.	2d Exam.	3d Exam.

15. That for the future the Licensing Bodies, which do not already do so, distinguish separately in their Returns the names and numbers of Candidates examined, and the numbers of those passed and rejected at the examinations for each of the qualifications conferred.

16. That it is not desirable that any University of the United Kingdom should confer any degree in Medicine or Surgery, whether that of Bachelor, Doctor, or Master, upon Candidates who have not graduated in Arts, or passed all the Examinations required for the Bachelorship in Arts, or the Examinations equivalent to those required for a degree in Arts.

VI.—SUPERVISION OF EXAMINATION.

1. That the visitations of Examinations, preliminary as well as professional, of the Qualifying Bodies, by the Branch Councils, or such of their members as they may depute, be continued during the ensuing year.

2. That the reports of the Visitors shall apply to every part of the Examinations of each Body, and shall include a statement of the facts observed and of the opinions of the Visitors as to the efficiency of the Examinations; and also such remarks and suggestions on defects in them as circumstances may indicate.

3. That the reports of the Visitors be submitted in the first instance to the Branch Councils: and that thereafter the Branch Councils shall direct them to be printed and circulated confidentially amongst the Members of the General Council, so that they may be in a condition, at the meeting of the General Council in 1870, to consider them maturely.

REMARKS ON MEDICAL STUDY.

THE above Recommendations by the General Medical Council, which may be considered to bear all the force of Regulations, are so full and explicit that the Medical Student can be at no loss in regard to what is required of him. It will be well, however, that he should in addition carefully study the Regulations of the particular Boards before which he intends to present himself. In the following remarks we need only call attention to a few points which we regard as specially deserving of attention.

The first act required of the intending Medical Student is to pass the *Preliminary Examination* before one of the Boards mentioned above as recognised by the General Medical Council. When a certificate of having successfully undergone this examination has been obtained, the Student must next enter his name in the Register of the General Medical Council, in the prescribed form. This Registration constitutes the formal entrance into the ranks of Medical

Studentship. It legally fixes the date of commencement of professional study, and it affords a guarantee that the Preliminary Examination has been passed. Perhaps no step in the career of a Medical Student is of greater importance than this. It is not right that any unusual difficulties should be placed in the way of the medical aspirant; but the elements of a liberal education are obviously essential. The Student imperfectly prepared can neither profit by instructions during his Medical curriculum, nor can he afterwards maintain that position in society which his profession requires him to hold. And not only will Medical Students be benefited by having to undergo the initiatory ordeal, but the examinations will react advantageously on the general education of the country, which, for want of some system of testing its results, seems very commonly to have fallen below the requirements of the age. It will now be necessary for intending entrants to the Medical profession, that their school studies be properly directed and supervised. The subjects of the *Preliminary Examination* remain as before.

In regard to *Professional Education and Examinations*, there are no particular changes to be noted. But the tendency still continues towards making both the teaching and the examinations more decidedly of a practical or demonstrative character. Among a large majority of the profession, a strong impression prevails that, in the present state of Medical Science, lectures are less useful than they formerly were for imparting instruction, and that demonstrations by the Teacher, or practical investigations by the Students themselves under proper superintendence, might with advantage be substituted for the more formal lectures. This question at present forms the subject of investigation by a Committee of the Medical Council, who have published an elaborate Report on the subject, and certain improvements in the modes of teaching may be expected to result. Lectures are best fitted for the enunciation of principles; demonstrations and practical studies for mastering a knowledge of details, for acquiring expertness in manipulation, and for cultivating the faculties of observation. Each of these methods has its separate sphere of operation, and their appropriate combination is the necessary condition of successful teaching. We would specially impress upon the Student that he should avail himself diligently of the numerous opportunities of practical instruction which are presented to him at the different Medical Schools, by frequenting the scientific laboratories, the hospitals, dispensaries, and special clinics. The information so acquired will stand him in good stead in the examinations, at which he will certainly be called upon to perform various manipulations, chemical testing, inspection with the microscope, etc.

The *Clinical Examinations in Medicine and Surgery*, recently instituted, now form a very important part of the final examinations. They require on the part of the Student a practical acquaintance with the modern methods of diagnosis, as well as cultivated powers of observing, recording, interpreting, and treating the various phenomena of disease. Of these Clinical Examinations, when judiciously carried out, we have formerly expressed our entire approval. They afford the most direct and unequivocal test of the candidates' real knowledge, and they must effectually promote clinical study on the part of Students. The quality of the clinical instruction should form a main element in our estimation of any Medical School. The ability of Graduates or Licentiates to practise their profession with success, will be found to depend chiefly upon the amount and value of their clinical knowledge.

Before proceeding to their final examination, Students are now required to produce a certificate of having studied *Vaccination* under a competent and recognised teacher. This additional requirement has been made in consequence of the steps taken by the Privy Council in regard to public Vaccination.

On the best method of pursuing Medical Studies, our counsel may be condensed in a few words. Four years are short enough for acquiring the extended information at present required by the Licensing Boards, even as a *minimum*. The Student therefore cannot too soon begin in earnest. During the session, he should lay out a plan of his hours of lectures, practical work, and private study, with sufficient intervals of healthful recreation; and should carry out this plan with unswerving steadiness. During vacation, time may be properly spent in practical work, as assistant to a medical practitioner, or in reading, either to complete past work or in anticipation of the subjects of study for next session. To Students who wish to attain to high honours or position in the profession, we should recommend five years, instead of four, for professional study; or, at all events, they would find great advantage from an acquaintance with Natural History, Natural Philosophy, Chemistry, and Botany, before commencing their strictly Medical studies. This object might be attained by attending classes on these subjects during the summer, previous to the winter session which begins their Medical curriculum.

To all Students we should strongly recommend to join, after their first year, some of the debating societies which are now found in connexion with most medical schools, and of which the Royal Medical Society of Edinburgh, with its spacious rooms and large library, is an excellent example. The mental vigour derived from independent thought and free discussion, and the genial influences of friendship for which these societies afford opportunity, are of great value in the education of the Medical Student, and contribute, in no small degree, to a successful career in after life.

The following pages contain a tabular abstract of the regulations of the various Licensing Boards, as well as a list of the Hospitals, Dispensaries, etc., attached to our Scotch Medical Schools; also the regulations for the Army, Indian, and Navy Medical Services. The space at our disposal does not allow of more detailed information. But, in point of fact, the regulations of all Licensing Boards now correspond much more closely than they used to do, and the regulations of the General Medical Council afford a key to the general requirements of all of them. For special information, application should always be made to the Secretaries of the Licensing Boards; or, in the case of the Universities, recourse may be had to the published Calendars.

The *Preliminary Examinations* are usually held before the commencement, and at the end, of the Winter Session,—viz., in October, March, or April—sometimes also at the end of the Summer Session. The Professional Examinations in Universities are usually after the Winter and during the Summer Sessions; in Edinburgh, however, the first professional is held in October as well as April. The other Licensing Boards' examinations are held at various periods throughout the year. Special examinations, under circumstances of urgency, can be held at almost any time; but they, of course, entail considerable addition to the expense.

MEDICAL SCHOOLS OF SCOTLAND, 1869-70.

WINTER SESSION.

SUBJECTS.	UNIVERSITY OF EDINBURGH.	SURGEONS' HALL, EDINBURGH.	UNIVERSITY OF GLASGOW.	ANDERSON'S UNIVERSITY, GLASGOW.	UNIVERSITY OF ABERDEEN.	UNIVERSITY OF ST ANDREWS.
Anatomy, Systematic and Practical, with Demonstrations.	Professor Turner.	Dr Handyside.	Dr A. Thomson.	Dr George Buchanan.	Professor Struthers.	...
Physiology, or Institutes of Medicine.*	Dr Bennett.	Dr Sanders.	Dr A. Buchanan.	Dr E. Watson.	Dr Ogilvie.	Dr Oswald Bell.
Chemistry, and Practical Chemistry.	Dr C. Brown.	Dr Macadam.	Dr T. Anderson.	Dr Penny.	Professor Brazier.	Dr F. Heddle.
Materia Medica and Therapeutics.	Dr Christison.	In Summer.	Dr Cowan.	Dr Morton.	In Summer.	...
Practice of Medicine.	Dr Laycock.	Dr Haldane,† Dr Balfour.	Dr Gairdner.	Dr M'Call Anderson.	Dr Macrobin.	...
Surgery.	Professor Spence.	Dr Watson,† Dr Jos. Bell. Mr Annandale.	...	Dr Macleod.	Professor Pirrie.	...
Midwifery.	Sir J. Y. Simpson, Bt.	...	Dr Leishman.	In Summer.	Dr Inglis.	...
Natural Philosophy.	Professor Tait.	Mr Lees.	Sir Wm. Thomson.	Mr Herschel.	Professor Thomson.	Professor Fischer.
Natural History.	Professor Allman.	...	Dr Young.	...	Professor Nicol.	...
General Pathology.	...	Dr Grainger Stewart.	...	...	...	Dr Rodger.
Clinical Medicine.	Drs Bennett, Laycock, and MacLagan.	Drs Sanders,† Haldane, Balfour, and J.M. Duncan.	The Physicians of the Royal Infirmary.		Drs Harvey and Smith.	...
Clinical Surgery.	Professor Lister.	Dr Gillespie.	The Surgeons of the Royal Infirmary.		Drs Keith and Pirrie.	...

* This course is equivalent to that given under the name of General Anatomy and Physiology in the English Schools. Special schedules are issued by the London Boards for their Scotch students, which should always be inquired for.

† These are not conjoint courses, but separate ones by the gentlemen named.

‡ This is a joint course.

MEDICAL SCHOOLS OF SCOTLAND, 1870.

SUMMER SESSION.

SUBJECTS.	UNIVERSITY OF EDINBURGH.	SURGEONS' HALL, EDINBURGH.	UNIVERSITY OF GLASGOW.	ANDERSON'S UNIVERSITY, GLASGOW.	UNIVERSITY OF ABERDEEN.
Practical Anatomy and Demonstrations.	Professor Turner.	Dr Handyside.	Dr A. Thomson.	Dr George Buchanan.	Professor Struthers.
Botany.	Dr Balfour.	...	Dr A. Dickson.	Mr Hennedy.	Dr Dickie.
Materia Medica.	...	Dr Angus Macdonald.	...	...	Dr Harvey.
Midwifery.	...	Dr Keiller.* Dr Duncan.	...	Dr Wilson.	...
Medical Jurisprudence.	Dr MacLagan.	Dr Littlejohn.†	Dr Rainy.†	Dr P. A. Simpson.	Dr Ogston.†
Comparative Anatomy.	Professor Turner.	Dr Handyside.	...	...	...
Histology.	Dr Bennett.	Dr Sanders.	...	...	Dr Struthers.
Practical Chemistry.	Dr Crum Brown.	Dr Macadam.*	Dr T. Anderson.	Dr Penny.	Prof. Brazier.
Natural Philosophy.	...	Mr Lees.	...	...	...
Natural History.	Professor Allman.	...	Dr Young.	...	Prof. Nicol.
Clinical Medicine.	Drs Bennett, Laycock, and MacLagan.	Drs Sanders,† Haldane, Balfour, and J. M. Duncan.	The Physicians of the Royal Infirmary.		Drs Harvey and Smith.
Clinical Surgery.	Prof. Lister.	Dr Gillespie.	The Surgeons of the Royal Infirmary.		Drs Keith and Pirie.

* These are not conjoint courses, but separate ones by the gentlemen named.

† Drs Rainy and Ogston deliver their courses only in winter. Dr Littlejohn gives courses during both the winter and summer sessions.

‡ This is a joint course.

For additional Summer Courses on special subjects, see the Prospectus of each School.

COURSE OF STUDY REQUIRED BY THE VARIOUS BOARDS OF THE UNITED KINGDOM.

	Age.		Anatomy.		Dissections.		Chemistry.		Practical Chemistry.		Materia Medica.		Physiology or Institutes of Medicine.		Surgery.		Practice of Medicine.		Midwifery.		Medical Jurisprudence.		Pathology or Morbid Anatomy.		Botany.		Natural History.		Practical Pharmacy.		Clinical Surgery.		Clinical Medicine.		Hospital Attendance.		Practical Midwifery.		Dispensary or Out-door Practice.		Vaccination.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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LIST OF HOSPITALS, DISPENSARIES, ETC., IN CONNEXION WITH THE MEDICAL SCHOOLS OF SCOTLAND.

EDINBURGH.

ROYAL INFIRMARY, including **LOCK HOSPITAL**. Upwards of 560 Beds. Visits daily from 12 till 2 P.M. Physicians—Drs Bennett, Laycock, and MacLagan, Professors of Clinical Medicine; Sir J. Y. Simpson, Clinical Professor for Diseases of Women; Drs W. R. Sanders, D. R. Haldane, G. W. Balfour, Clinical Lecturers; Dr J. Matthews Duncan (on Diseases of Women). Pathologist and Special Assistant Physician, Dr Grainger Stewart.

Surgeons—Mr Lister, Professor of Clinical Surgery; Professor Spence; Dr Gillespie, Clinical Lecturer; Dr P. H. Watson. Assistant Surgeon, Mr Annandale. Consulting Surgeons, Professor Syme and Dr Dunsmure. Ophthalmic Surgeon, Mr Walker; Assistant, Dr Argyll Robertson. Dental Surgeon, Dr John Smith.

CONVALESCENT HOUSE, Corstorphine. Visiting Medical Officer, Mr Annandale.

CHALMERS HOSPITAL FOR THE SICK AND WURT. 24 Beds for medical and surgical patients. Physician, Dr Halliday Douglas; Surgeon, Dr P. H. Watson.

ROYAL MATERNITY HOSPITAL. 36 Beds; 245 in-patients and 336 out-patients annually. Consulting Physicians—Drs Sir J. Y. Simpson and Moir. Physicians—Drs Weir, Keiller, C. Bell, and Ziegler. Consulting Surgeon, Dr Dunsmure.

ROYAL HOSPITAL FOR SICK CHILDREN. 40 Beds; average number of out-patients, about 5200. Consulting Physicians—Professor Christison, Dr C. Wilson, and Dr Graham Weir. Consulting Surgeon, Professor Spence. Physicians—Drs Keiller, Grainger Stewart, Stephenson, and R. Peel Ritchie. Extra Physicians—Drs Linton and J. Millar. Surgeon-Dentist, Dr Smith.

ROYAL PUBLIC DISPENSARY AND VACCINE INSTITUTION. About 10,700 patients annually. Medical Officers—Drs Ritchie, Stephenson, Cairns, Spence, Linton, Balfour, Sanders, Husband, Somerville, D. Wilson, Millar, and Smart. Physicians-Accoucheurs—Drs Keiller, Matthews Duncan, Stephenson, and Cairns. Superintendent of Vaccination, Dr Husband. Medical Secretary, Dr Ritchie. Visits daily at 2 P.M. Vaccination on Wednesdays and Saturdays at 12 noon. Apothecary, Mr R. Urquhart.

NEW TOWN DISPENSARY. About 9000 patients annually. Medical Officers—Drs J. Hunter, Dyce, Joseph Bell, A. Dickson, Claud Muirhead, Miller, Chiene, Cunynghame, and Brakenridge. Physicians-Accoucheurs—Drs Dumbreck, Sir J. Y. Simpson, Weir, and Angus Macdonald. Superintendent of Vaccination, Dr J. Hunter. Medical Secretary, Dr Joseph Bell. Visits daily at 2 P.M. Vaccination on Tuesdays and Fridays from 12 to 1.

DISPENSARY FOR SKIN DISEASES, 4 Melbourne Place (George IV. Bridge). Open on Mondays and Thursdays from 2 till 3 o'clock. Surgeon, Mr G. Stevenson Smith.

ROYAL ASYLUM FOR THE INSANE. About 660 patients. Physician, Dr Skae. Lectures and Clinical Visits in summer.

EYE INFIRMARY, 6 Cambridge Street, Lothian Road. Surgeons—Benjamin Bell, Esq., F.R.C.S., and Dr Joseph Bell, F.R.C.S. Open daily at 1 P.M. Average number of patients annually, 900.

EYE DISPENSARY, Cockburn Street. About 2000 patients annually. Surgeons—Mr Walker, Dr Wilson, and Dr Argyll Robertson. Open Mondays, Wednesdays, and Fridays, at 1 P.M. Clinical instruction during the summer session.

EAR DISPENSARY, 54 Cockburn Street. Drs T. Keith and Jackson. Tuesdays at 12. Average, about 20 cases daily.

DENTAL DISPENSARY, Cockburn Street. Consulting Surgeon, Professor Spence. Consulting Physician, Dr Sanders. Consulting Surgeon-Dentist, Mr Nasmyth, F.R.C.S. Dental Surgeons—Dr John Smith, Dr Orphoot, Mr Hutchins, Dr Roberts, Dr Hogue, Mr Knox Chisholm. Assistant Dental Surgeons—Mr Swanson, Mr G. O. Roberts. Daily, 9 to 10 A.M. Average number of patients, 4000 per annum.

GLASGOW.

ROYAL INFIRMARY. 547 Beds. Visits daily at 8.30 A.M. Physicians—Drs W. T. Gairdner, Steven, Perry, M'Laren, and McCall Anderson. Physician to out-patients—Dr P. A. Simpson (one vacant).

Surgeons—Drs E. Watson, Dewar, G. H. B. Macleod, and George Buchanan. To out-patients—Drs James Dunlop and Alexander Paterson. Pathologist (vacant). Superintendent, Dr M. Thomas.

LOCK HOSPITAL. 47 Beds. Medical Officers—Drs G. H. B. Macleod and James Dunlop.

LYING-IN HOSPITAL AND DISPENSARY. 24 Beds; in-patients, 326; out-patients, 353. Physicians-Accoucheurs—Drs J. G. Wilson and R. D. Tannahill. Consulting Physician—Dr A. Anderson. Consulting Surgeon—Dr George Buchanan. Dispensary Physicians—Drs John Burns, R. T. Paton, G. Miller, and H. Millar.

UNIVERSITY LYING-IN HOSPITAL AND DISPENSARY. In-patients, about 750; out-patients, about 2500. Physicians—Drs Leishman and John Wilson.

ROYAL ASYLUM FOR THE INSANE. About 680 patients. Physician-Superintendent, Dr A. Macintosh.

EYE INFIRMARY. 24 Beds; 127 in-patients; 3016 out-patients annually. Physician, Harry Rainy, M.D. Consulting Surgeons—Andrew Anderson, M.D., William Brown, M.D. Surgeon, Thomas Reid, M.D. Assistant-Surgeon, Matthew Charteris, M.D. House-Surgeon, Archibald Neilson, L.F.P.S.G. and R.C.P.E.

EAR DISPENSARY. About 400 patients annually. Surgeon, Dr Dewar. Open on Tuesdays, Thursdays, and Saturdays, at 3 P.M.

DISPENSARY FOR SKIN DISEASES. About 1400 patients. Physician, Dr McCall Anderson. Practical Courses in Diseases of the Skin and Ear, during May, June, and July. The Dispensary is open on Mondays and Wednesdays at 1 P.M., and on Tuesdays for Diseases of the Ear at the same hour.

ABERDEEN.

ROYAL INFIRMARY. Upwards of 300 Beds. Visits daily at 12 o'clock. Physicians—Drs Harvey, Smith, and Beveridge.

Surgeons—Drs Keith, Pirrie, Kerr, Fiddes. Ophthalmic Surgeon, Dr A. Ogston. Pathologist, Dr Rodger. Dental Surgeon, Mr Williamson.

GENERAL DISPENSARY, LYING-IN AND VACCINE INSTITUTION. 7000 patients annually. Medical Officers—Drs Angus Fraser, Duncan, and Brown; Messrs Smith, Paterson, and Fraser. Visits daily at 9.30 A.M. Vaccination every Wednesday at 3 P.M.

LUNATIC ASYLUM. Above 300 patients. Consulting Physician, Dr Macrobin. Resident Physician, Dr Robert Jamieson. Clinical Lectures in summer.

EYE INSTITUTION, 60 St Nicholas Street. Surgeon, Dr Davidson. Open daily, except Sunday, at 2.30 P.M. Clinical Instruction on Diseases of the Eye, and the use of the Ophthalmoscope. Average, 600 patients annually.

ARMY MEDICAL DEPARTMENT,

WHITEHALL YARD.

QUALIFICATIONS AND EXAMINATION OF CANDIDATES FOR COMMISSIONS IN THE
ARMY MEDICAL SERVICE.

1. Every candidate desirous of presenting himself for admission to the Army Medical Service must be unmarried, and not under 21 nor over 28 years of age. He must produce a certificate from the District Registrar, in which the date of birth is stated; or, if this cannot be obtained, an affidavit from one of the parents or other near relative, who can attest the date of birth, will be accepted. He must also produce a certificate of moral character from the parochial minister, if possible.

2. The candidate must make a declaration that he labours under no mental or constitutional disease, nor any imperfection or disability that can interfere with the most efficient discharge of the duties of a medical officer in any climate.¹ He must also attest his readiness to engage for general service, and to proceed on foreign service when required to do so.

3. The candidate must be registered under the Medical Act of 1858 as licensed to practise Medicine and Surgery in Great Britain or Ireland.

4. Certificates of registration, character, and age must accompany this Schedule when filled up and returned.

5. Candidates will be examined by the Examining Board in the following subjects:—Anatomy and Physiology; Surgery; Medicine, including Therapeutics, the Diseases of Women and Children, Chemistry and Pharmacy, and a practical knowledge of drugs. (The examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of Medical and Surgical patients at the bedside.) The eligibility of each candidate for the Army Medical Service will be determined by the result of the examinations in these subjects only. Candidates who desire it will be examined in Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany, with special reference to *Materia Medica*, and the number of marks gained in these subjects will be added to the total number of marks obtained in the obligatory part of the Examination by candidates who shall have been found qualified for admission, and whose position on the list of successful competitors will thus be improved in proportion to their knowledge of these branches of science.

6. After passing this examination, every candidate will be required to attend one entire course of practical instruction at the Army Medical School on—(1) Hygiene; (2) Clinical and Military Medicine; (3) Clinical and Military Surgery; (4) Pathology of Diseases and Injuries incident to Military Service.

7. At its conclusion, the candidate will be required to pass an examination on the subjects taught in the School. If he give satisfactory evidence of being qualified for the practical duties of an Army Medical Officer, he will be eligible for a commission as assistant-surgeon.

8. During the period of his residence at the Army Medical School each candidate will receive an allowance of 5s. per diem with quarters, or 7s. per diem without quarters, to cover all costs of maintenance; and he will be required to provide himself with uniform (*viz.*, the regulation undress uniform of an assistant-surgeon, but without the sword).

9. All candidates will be required to conform to such rules of discipline as the Senate may from time to time enact.

¹ His physical fitness will be determined by a Board of Medical Officers, who are required to certify that the candidate's vision is sufficiently good to enable him to perform any surgical operation without the aid of glasses. A moderate degree of myopia would not be considered a disqualification, provided it did not necessitate the use of glasses during the performance of operations, and that no organic disease of the eyes existed. Every candidate must also be free from organic disease of other organs, and from constitutional weakness or other disability likely to unfit him for military service in any climate.

EXTRACTS FROM THE ROYAL WARRANT (APRIL 1, 1867) FOR THE PAY AND
NON-EFFECTIVE PAY OF MEDICAL OFFICERS.

The daily rates of pay of the officers of the Medical branch of the Hospital Department of our Army shall be as follows :—

Medical Staff.—Daily pay : director-general, special ; inspector-general £2, after twenty-five years' service £2, 5s., after thirty years' service £2, 7s., after thirty-five years' service £2, 10s. ; deputy inspector-general £1, 10s., after twenty-five years' service £1, 12s., after thirty years' service £1, 15s., after thirty-five years' service £1, 17s. ; surgeon-major £1, 4s., after twenty-five years' service £1, 7s. ; surgeon 17s. 7d., after fifteen years' service 20s. ; assistant-surgeon, on appointment, 10s., after five years' service 12s. 6d., after ten years' service 15s., after fifteen years' service 17s. 6d. Charge pay : the officer in medical charge of an army in the field, of 10,000 men and upwards, £1 daily ; of 5000 men and upwards, 15s. daily ; of less than 5000, 10s. daily. Or, in medical charge of a colony where the number of commissioned officers and enlisted men is 1500 and upwards, 5s. daily.

Apothecaries.—Daily pay : apothecaries, 9s., after five years' service 10s. 6d., ten years' 12s., fifteen years' 13s. 6d., twenty years' 15s., twenty-five years' 16s. 6d., thirty years' 18s.

Assistant-surgeons shall, as a general rule, be promoted to the rank of surgeon in the order of their seniority in the service, unless unfit for the discharge of their duties from physical or professional incompetence or misconduct. In cases of distinguished service, however, an assistant-surgeon may be promoted without reference to seniority ; and in such cases, the recommendation detailing the services for which the officer is proposed for promotion shall be published in the General Orders of the Army, and in the *Gazette* in which such promotion shall appear.

A surgeon, after twenty years' service in any rank, shall be styled surgeon-major, but a surgeon of less than twenty years' full-pay service may be promoted to the rank of surgeon-major for distinguished service. The recommendation detailing the services for which the officer is proposed for promotion for distinguished service shall be published in the General Orders of the Army, and in the *Gazette* in which such promotion shall appear.

A surgeon must have served ten years in our army, with a commission on full pay, of which period two years must have been passed, with the rank of surgeon, in or with a regiment or depot battalion, before he can be promoted to the rank of deputy inspector-general of hospitals.

All promotion from the rank of surgeon or surgeon-major to that of deputy-inspector, and from the rank of deputy-inspector to that of inspector, shall be given by selection for ability and merit, the selection being made from the whole rank of surgeons, whether styled surgeons or surgeons-major ; and the grounds of such selection shall be stated to us in writing, and recorded in the office of our Commander-in-Chief.

A deputy inspector-general of hospitals must have served five years at home, or three abroad, in that rank, before he can be promoted to the rank of inspector-general.

Our Secretary of State for War in cases of emergency may shorten the several periods of service above mentioned, as he shall deem expedient for the good of our service.

Good-service pensions shall be awarded to the most meritorious medical officers of our army, under such regulations as shall be from time to time determined by us, with the advice of our Secretary of State for War. Six of the most meritorious medical officers of our army shall be named our honorary physicians, and six our honorary surgeons.

Medical officers shall have the right to retire on half-pay after twenty years' service ; medical officers of the rank of surgeon-major, surgeon, or assistant-surgeon, shall be placed on the retired list at the age of fifty-five ; and all inspectors-general and deputy inspectors-general at the age of sixty-five years.

Our Secretary of State for War may, when he shall deem it fit, employ officers of the medical branch of our hospital department in sundry situations, at such daily rates of pay, in addition to half-pay, as he shall from time to time determine.

A medical officer who, having voluntarily resigned his commission, has subsequently been permitted to re-enter the army, shall not, except under very special circumstances to be approved by our Secretary of State for War, be allowed to reckon his former service.

An apothecary shall have the right to retire on half-pay after thirty years' good service.

Non-effective Pay.—A medical officer placed on half-pay by reduction of establishment, or on the report of a Medical Board in consequence of wounds or ill-health caused in and by the discharge of his duties, or on account of age, shall be entitled to half-pay at the following daily rates:—Inspector-general, after thirty years' service, £1, 17s. 6d.; twenty-five years', £1, 13s. 6d.; twenty years', £1, 10s. Deputy inspector-general, after thirty years', £1, 5s. 6d.; twenty-five years', £1, 2s. 6d.; twenty years', £1, 1s. Surgeon-major, after fifteen years', £1; twenty years', 16s. 6d. Surgeon, after fifteen years', 13s. 6d.; ten years', 11s. Assistant-surgeon, after ten years', 10s.; five years', 8s.; under five years', 6s.

The rate of half-pay awarded to officers retiring for their own convenience, after twenty years' service on full-pay, shall not exceed one-half of their full-pay at the time of retirement.

ARMY MEDICAL SCHOOL.

President of the Senate.—Sir T. Galbraith Logan, K.C.B., M.D., Director-General of the Army Medical Department.

Members of the Senate.—Sir Ranald Martin, C.B., Physician to the Indian Council; Inspector-General G. S. Beatson, M.D., C.B., Principal Medical Officer, Royal Victoria Hospital; Deputy-Inspector-General T. Longmore, C.B., Professor of Military Surgery; Deputy-Inspector-General W. C. Maclean, Professor of Military Medicine; William Aitken, M.D., Professor of Pathology; E. A. Parkes, M.D., F.R.S., Professor of Military Hygiene.

Assistant Professors.—Staff-Surgeon Major W. A. Mackinnon, C.B., and W. J. Fyfe, M.D.; Staff-Surgeon F. S. B. F. De Chaumont, M.D.; and Staff-Assistant-Surgeon V. Wearne.

Candidates for Commissions in the Army, and in the Queen's Indian Service, proceed to Netley after passing the Examination at Chelsea. At Netley they attend the Medical and Surgical Practice of the Royal Victoria Hospital and learn the system and arrangements of Military Hospitals. During four months they attend the lectures given by the Professors and Assistant-Professors, and go through a course of practical instruction in the Hygienic Laboratory and Microscopical Room. The lectures and practical instruction are intended to explain the specialties of Military Medical Practice, attention being directed to gunshot and other wounds, surgical arrangements in the field during action and sieges, means of transport, field-hospitals, tropical diseases and their means of investigation, service in India and in the various colonies, the sanitary arrangements in peace and war, and the means of carrying out the sanitary regulations. Every opportunity is taken of practising operations on the dead body, and practical points of a like kind.

INDIAN MEDICAL SERVICE.

ALL natural-born subjects of Her Majesty between twenty-two and twenty-eight years of age at the date of the examination, and of sound bodily health, may be candidates for the appointment of assistant-surgeon in Her Majesty's Indian Medical Service.

They must subscribe and send in to the Military Secretary, India Office, Westminster, proofs of their qualification similar to those required by the Army Medical Department.

Degrees, diplomas, licenses, and certificates of their registration in accordance with the Medical Act of 1858, must be lodged at the India Office, for examination and registry, at least one fortnight before the candidate appears for examination. The regulations, subjects, and times for examination are the same as for the Army Medical Department. Passage allowance to India on appointment will be given, or a passage provided. When passages are provided on board the Indian troop-ships, a charge for messing will be made at the rate laid down in the Royal Passage Warrant of 1865. Pay at 10s. a day will be allowed from the date of passing final examination at the Army Medical School.

Indian allowances and time of service for pension will reckon from date of arrival in India. The period of residence at the Army Medical School will reckon as service for the full-pay pension only.

The duties will be those hitherto performed by the medical officers of the East India Company's Service, with the exception of those relating to European troops.

Surgical instruments are provided in India by the Government for the use of medical officers.

When assistant-surgeons have served the requisite time they will be examined in the following manner as a test for promotion:—

A series of printed questions, prepared by the Inspector-General of the Presidency, will be sealed and sent to the principal medical officers of stations where assistant-surgeons may be eligible for examination. It will be the duty of the principal medical officer of the station to deliver these sealed questions to the assistant-surgeons, and to see that they are answered without the assistance of books, notes, or communication with any other person. The answers are to be signed, and delivered sealed, to the principal medical officer, who is to send them, unopened, to the Inspector-General of the Presidency, together with a certificate from the surgeon of the regiment, or other superior medical officer, that the assistant-surgeon has availed himself of every opportunity of practising surgical operations on the dead body.¹

The assistant-surgeon will also be required to transmit, together with his answers to the Inspector-General of the Presidency, a medico-topographical account of the station where he may happen to be at the time, or of some other station where he may have been resident sufficiently long to enable him to collect the necessary information for such a report. Failing this, he will send a medico-statistical report of his regiment for a period of at least twelve months.

If the Inspector-General of the Presidency is satisfied with the replies to the questions, and with the certificates and medico-topographical or statistical report, the assistant-surgeon will be held qualified for promotion.

The assistant-surgeon will thus be subjected to three separate examinations within the first ten years of his service, each examination having a definite object: the first, to ascertain, previous to his admission into the service as a candidate, his scientific and professional education, and to test his acquirements in the various branches of professional knowledge; the second, after having passed through a course of special instruction in the Army Medical School, to test his knowledge of the special duties of an army medical officer; and the third, previous to his promotion, to ascertain that he has kept pace with the progress of medical science.

The promotion of assistant-surgeons will be regulated by length of service, and not, as heretofore, by succession to vacancies in a fixed establishment of officers of the higher grades.

Assistant-surgeons of twelve years' service from the date of first commission (of which two years shall have been passed in charge of a native regiment),

¹ The assistant-surgeon may see this certificate before it is sent to the Inspector-General.

who shall have passed the prescribed examination in professional subjects, will be promoted to the rank of surgeon.

A surgeon, whether on the staff or attached to regiments, must have served ten years in India, of which two must have been passed, with the rank of surgeon, in or with a regiment, or as a civil surgeon, before he will be eligible for promotion to the rank of deputy inspector-general of hospitals.

A deputy inspector-general of hospitals must have served three years in India as such before he shall be eligible for promotion to the rank of inspector-general.

In cases, however, of emergency, or when the good of the service renders such alteration desirable, it shall be competent for the Governor-General in Council to shorten the several periods of service above mentioned, in such manner as he shall deem fit and expedient.

With a view to maintain the efficiency of the service, all medical officers below the rank of deputy inspector-general of hospitals shall be placed on the retired list when they shall have attained the age of fifty-five years, and all inspectors-general and deputy inspectors-general when they shall have attained the age of sixty-five years.

With a view of promoting the efficiency of the service, it has been further determined that the tenure of office by a deputy inspector-general shall, as in the case of inspectors-general, be limited to five years; officers being, however, if not disqualified by age, eligible either for employment for a second tour of duty in the same grade, or for employment in the higher grade of inspector-general by promotion thereto.

The rank of inspector-general and deputy inspector-general conferred upon officers of the Indian Medical Service under the royal warrant of 13th January 1860 is to be considered as substantive rank.

These officers, on vacating office at the expiration of the five years' tour of duty, will be permitted in future to draw respectively an unemployed salary of 1200 rupees per mensem in the former, and 900 rupees in the latter case, for a period of six months from the date of their vacating office, after which they will be placed while unemployed on the rate of pay laid down for officers of corresponding rank in Europe. These sums, deducted from the consolidated salary, will regulate the moiety of staff salary to be drawn by officers of those grades during absence on sick certificate.

NAVY MEDICAL DEPARTMENT.¹

REGULATIONS RELATIVE TO THE EXAMINATION OF CANDIDATES FOR THE APPOINTMENT OF ASSISTANT-SURGEON IN THE ROYAL NAVY.

1. That a candidate for entry into the Royal Navy shall make a written application to that effect, addressed to the Secretary of the Admiralty, on the receipt of which application he will be furnished with the regulations, and a printed form, to be filled up by him, to show if he possesses the required qualification.

2. As vacancies occur, the number of candidates required will be ordered to attend at the Admiralty Office on the first Tuesday in alternate months, commencing with July; but it is to be observed, that no person can be admitted as an assistant-surgeon in the Royal Navy unless he can produce satisfactory evidence that his name has been placed on the Medical Register as legally qualified to practise both Medicine and Surgery according to the Regulations established by the Medical Act. And further, he will be required to make a declaration that he is free from any mental or bodily disease, defect, or infirmity, which could interfere with the efficient discharge of his duties as a medical officer in the Navy.

3. Each candidate will be required to produce a certificate of good moral

¹ The regulations for this service being at present under revision, intending candidates should look out for the issue of the new regulations.

character, signed by the clergyman of the parish, or by the magistrate of the district.

4. A certificate that he is not less than twenty nor more than twenty-eight years of age.

5. That he has received a preliminary classical education.

6. That subsequently to the age of eighteen he has actually attended a recognised hospital for eighteen months, in which the average number of patients is not less than one hundred.

7. That he has been engaged in actual dissection for twelve months, and that he has performed the principal capital and minor operations on the dead body under a qualified teacher. The certificates of Practical Anatomy must state the number of subjects or parts dissected by the candidate.

8. On producing the above certificates, he will be examined before a Board of Naval Medical Officers, specially summoned by their Lordships, on the following subjects, viz. :—Anatomy, Surgery, Physiology or Institutes of Medicine, Practice of Medicine, Chemistry, Materia Medica, Midwifery, Botany.

9. Although the above are the only qualifications which are absolutely required in candidates for the appointment of assistant-surgeon, a favourable consideration will be given to those who have obtained the degree of M.D. from any University in the United Kingdom, or who, by possessing a knowledge of the diseases of the eye, or of any branch of science connected with the profession—such as Medical Jurisprudence, Natural History, and Natural Philosophy—appear to be more particularly eligible for admission into the service; observing, however, that lectures on these or any other subjects cannot be admitted as compensating for any deficiency in those required by the regulations.

10. Such candidates as shall have been found in all respects competent for the appointment of assistant-surgeon will be forthwith nominated to one of Her Majesty's Ships, or to a Naval Hospital at home; or, should their services not be immediately required, their names will be duly registered for early appointments as vacancies may occur. But it is distinctly to be observed, that candidates admitted into the Naval Medical Service must serve in whatever ship they may be appointed to; and that in the event of their being unable to do so from sea-sickness, their names cannot be continued on the Naval Medical List, nor can they, of course, be allowed half-pay.

11. By the rules of the service no assistant-surgeon can be promoted to the rank of surgeon until he shall have served five years, two of which must have been in a ship actually employed at sea, after which he will be required to pass an examination before a Board of Naval Medical Officers, assembled at the department of the Medical Director-General of the Navy.

12. Assistant-surgeons at home, after completing the stipulated five years' service, may, if the public service will admit, be granted two months' leave of absence on full pay, on condition of their resuming their studies at a medical school or hospital.

13. A limited number of those candidates who pass the best examination on entering the service shall be promoted annually to the rank of surgeon at an earlier period than would occur under ordinary circumstances; and these promotions shall be awarded as follows:—The candidate who passes the best examination of his year—after five years' service. The candidate who passes the second best examination of his year—after six years' service. The candidate who passes the third best examination of his year—after seven years' service. Provided, however, that their second examinations are passed in an equally creditable manner, and that their conduct during the whole time they have been in the service has in all respects been satisfactory.

Part Second.

REVIEWS.

The Practice of Medicine. By THOMAS HAWKES TANNER, M.D., F.L.S. In two volumes, 8vo, pp. 1301. Sixth edition, enlarged and thoroughly revised. London: Henry Renshaw: 1869.

A Treatise on the Principles and Practice of Medicine; designed for the use of Practitioners and Students of Medicine. By AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College, etc. Third edition, thoroughly revised; 8vo; pp. 1002. Philadelphia: Henry C. Lea: 1868.

THESE works form the most recent additions to our text-books on Medicine, the one representing English and the other American opinions, and each affording a remarkable corroboration of Cabanis's statement, that the views of good practitioners in regard to the treatment of disease differ very little in all ages and in all countries. Still each has its own peculiar merits.

Dr Tanner's work first appeared many years ago as a "Manual" in 32mo, containing only about 700 pages; in this form it was and still is extensively popular with students preparing for examination. In its fifth edition it ceased to be a manual, and became a handsome 8vo of 900 pages, and this has in the immediately succeeding edition now before us expanded into two volumes, each of over 600 pages. It is still, however, essentially an elementary work, and of course mainly a compilation. The derivations of all the nosological terms are given, and with one exception correctly. The exception we refer to is icterus, which Tanner derives from *ικτίς*, a weasel, the eyes of which are yellow, forgetful that the word is itself a Greek term, *ικτερός*, meaning alike jaundice and the golden oriole, a bird, the sight of which, according to Pliny, was life to a jaundiced patient, but death to the unfortunate bird itself. The copious and excellent formulary supplied, and the concise yet accurate account of the various spas and health-resorts, render this work one of considerable value to the junior practitioner. In the article on Scarlatina, we observe a reproduction of his former statement, that in *scarlatina maligna* the force of the disease is mainly expended on the throat. Every one who has seen anything of *scarlatina maligna* knows how misleading this doctrine is, and how it is not so much any local affection as general nervous derangement from blood-poisoning, that renders scarlatina truly malignant. In the worst forms indeed there is often no sore throat at all, or none complained of, and only a blush perhaps over the

tonsils to show that it is present; it is truly a fearful form of disease, hopeless if unrecognised, but not utterly so if recognised at once, and actively and appropriately treated. The patient frequently dies within twelve hours, often within twenty-four; so we must indeed be active. Its features are, however, so peculiar and distinctive, that they may be at once recognised, even though we are unaware of any previous reception of the scarlatinous poison. These symptoms are pallor, usually vomiting, frequently diarrhœa, cold extremities, with great internal heat, the thermometer occasionally reaching 105° F. in the armpit, extreme rapidity of the pulse, and a general state of hazy stupidity; slight redness of the throat may be seen, but is never complained of, and there is no eruption on the skin, which is pale. Similar symptoms, coming on at once, occur in no other disease, and form a combination which, once seen, can never fail to be recognised. This is what is termed the adynamic form—the most fearful, most suddenly fatal, and most truly malignant of any. Yet a proportion of even these cases may be rescued from the jaws of death by the free administration of brandy and ammonia, coupled with powerful stimulatives to the skin, the best means of employing which is to wrap the patient in a blanket wrung out of boiling water, and cover him with a waterproof sheet. But if we fail to recognise such cases because there is no sore throat, then, indeed, our ignorance will very speedily be hidden by our common mother the earth.

In regard to local paralysis, Tanner is very meagre and defective; and in speaking of hemiplegia he reproduces the old blunder of John Shaw and Todd, that in such cases the *portio dura* is not involved in the paralyzing lesion, but that the drooping of the palsied cheek is due to an affection of the motor division of the fifth. This opinion, very generally accepted by British writers, has not been so universally adopted by the authors of other European countries, and has been, three years ago, conclusively disproved in a most elaborate paper in the *Lancet* by Dr Sanders. It is somewhat singular that Dr Flint, whose work dates a year earlier than Tanner's, has gone into this matter somewhat minutely, and unhesitatingly adopts Dr Sanders's views. But, indeed, on the whole subject of paralysis, Flint is much more full and explicit, as might, indeed, be expected of a man who has had so large an hospital experience as he has. In regard also to locomotor ataxy, Tanner is very accurate in regard to his description, but seems to think little of treatment, pooh-poohing even the nitrate of silver, which we have never found to fail in checking the disease, even to the extent of restoring a portion, and sometimes a large portion, of the lost sensibility; and after the strongly favourable opinion expressed by German authors, we were entitled to expect a more favourable notice of it from a man who goes in so strongly for practice as Tanner does. To review a work which has already gone through six editions, would be indeed a work of supererogation; we have merely selected these few points

to show to Dr Tanner that his work is still susceptible of improvement, and to the profession that, good although it is, all its statements are not to be unhesitatingly accepted.

Dr Flint's work, though claiming no higher title than that of a text-book, is really more. He is a man of large clinical experience, and his book is full of such masterly descriptions of disease as can only be drawn by a man intimately acquainted with their various forms. For instance, if we turn to his account of Scarlatina, we find in a few pages the whole of its clinical history accurately given; and in a few lines the essentials of its malignant adynamic form, as we have concisely given them, carefully discriminated from the anginous form. It is not so long since we had the pleasure of reviewing his first edition, and we recognise a great improvement, especially in the general part of the work. All the modern views in regard to inflammation are now fairly represented, even tubercle is not such a puzzle as it formerly was; and if Flint still considers the waxy form of kidney disease a rare one, it is not because he is unacquainted with the views of others, or has had a small personal experience. We must therefore conclude that it is rare in America; why it should be so we know not. We still meet with a few American words, and "pneumonitis" still, to our eyes, disfigures its pages; but, nevertheless, it is a work which we can cordially recommend to our readers as fully abreast of the science of the day. Both of these works are excellent, though not faultless. With its definitions of nosological terms and formulary, Tanner's is, perhaps, better adapted for what may be termed a student's "grinding" book; but the accurate clinical histories of disease make Flint's more suitable for even the junior practitioner.

The Pathology and Treatment of Stricture of the Urethra and Urinary Fistula. By Sir HENRY THOMPSON, F.R.C.S.; Surgeon-Extraordinary to H. M. the King of the Belgians; Professor of Clinical Surgery and Surgeon to University College Hospital. Third edition; pp. 336. London: John Churchill and Sons: 1869.

WHEN a work of this kind has reached its third edition, it is generally beyond the reach either of praise or censure. Indeed, the chief danger to which later editions are subject is over-distention, undue obesity—the result of accumulated notes, cases, and addenda, which very often detract from the value of the work, and change its character from a readable treatise to a useless encyclopædia. We are glad to be able to say that Sir Henry Thompson has avoided this most grievous error, and that, by the omission of old cases and condensation of new experience, the third edition is a smaller and more compact work than the second. It has lost none of its value

by this curtailment, and remains the standard work on the subject of which it treats.

Other works may have more originality, some more didactic energy and swing, some are wedded to one form of treatment, some to another; but for a concise yet sufficient view of the whole subject of the pathology and treatment of stricture, and for a sensible balancing of respective methods of relief, we know of no work in the English language so simple, accessible, and complete as the one which heads this brief notice.

A Treatise on Syphilis. By WALTER J. COULSON, F.R.C.S.; Surgeon to the Lock Hospital, and to St Peter's Hospital for Stone and Urinary Diseases. Pp. 374. London: John Churchill and Sons: 1869.

A Treatise on Syphilis, Historical and Practical. By Dr E. LANCERAUX, Head of the Clinical Department of the Faculty of Medicine in Paris; Laureate of the French Institute. In two volumes; pp. 406, 380. Translated by G. WHILLEY, M.D., for the New Sydenham Society. 1868.

THE English medical press has lately been exceedingly prolific in works on this special subject, most of them large and well-considered; it is only a few months ago that we had to notice two;¹ again two more head the page. The reason of this abundance is not far to seek. In the first place, a vast revolution has passed over the whole pathology of syphilis within the last ten or twenty years; light has begun to break on a subject previously involved in the deepest obscurity; and as in the kingdom of the blind the one-eyed is king, so no man is so anxious to enlighten his friends as one who has just obtained a little information for himself.

In the second place, syphilis is an epitome of all pathology, and yet so limited as to be able to be compressed into a treatise.

In the third, there is no more rapid road to fortune, if not to fame, than the path of a fashionable syphilographer or syphilologist.

Of the two works the names of which stand at the head of this notice, we are bound to speak in high terms. Both are dualists, *i.e.*, belong to the young but rapidly increasing school, who believe in the absolute independence of soft chancre, and syphilis properly so called. Both are thoroughly impressed with the vast clinical importance of the later or quaternary symptoms of constitutional syphilis, and both have added important observations illustrating this subject. Agreeing with each other in most important principles, they differ in many more trivial details; and are so thoroughly unlike in manner, size, and style, as to require separate notices.

¹ *Edinburgh Medical Journal*, February 1869.

Though Mr Coulson calls his work a Treatise on Syphilis, and in the very first chapter clearly explains that soft chancre is not syphilis, and does not produce syphilis, still we think he is perfectly right in devoting the first few pages to a description of the symptoms, pathology, and treatment of soft or non-infecting chancre.

This description of a soft chancre is practical and short:—

"1. The external appearance of the non-infecting chancre is peculiar. Its edges are red, loose, and not adherent to the underlying tissues. Its walls are abrupt and perpendicular, so that it looks as if cut out of the tissue as with a punch.

"2. The floor of the non-infecting presents a worm-eaten appearance; it is bathed in pus: does not contain any fibro-plastic adventitious tissue, and is therefore essentially soft. . . . The base of a non-infecting chancre may sometimes present more or less hardening from inflammatory action; but the practised touch of an experienced surgeon will *almost* always enable him to distinguish inflammatory thickening from specific induration."

Would we could advise the omission of the *almost* we have italicized in the last line save one, for in the possible error under this head lie many a danger in practice and many a fallacy in pathological reasoning.

The treatment of soft chancre is purely local, and on it Mr Coulson gives some good practical observations, especially the following:—

"The one form of local remedy to be specially avoided for ulcers under the prepuce are ointments of all kinds. They soon get rancid, decompose, and become a source of irritation. . . . On no account divide the prepuce (in cases of phymosis complicating soft chancre). Formerly the danger of inoculation was not well understood, and the consequences of slitting up the prepuce were, in some cases, deplorable. . . . The local treatment found most useful for gangrene is the saturated solution of the potassio-tartrate of iron, kept in constant contact with the sore by means of lint, and changed every four hours."—Pp. 16, 17.

After an account of both kinds of chancre in both sexes, we come to a chapter on the doctrines of syphilis, in which Mr Coulson, after professing himself an adherent of the young school, gives the following epitome of its doctrines:—

"The doctrines we profess, the truth of which I shall now endeavour to demonstrate, are simple, clear, and precise. We are *unicists*—that is to say, we hold that the poison of syphilis is *one*—that the constitutional disease is derived from the poison of one species of chancre *alone*, either directly or indirectly. We are likewise dualists; but in this sense that we admit the existence of *two* species of chancre, the one hard or infecting, the other soft chancre, which latter is locally contagious, but does not infect the constitution. Finally, we are *unicists*—that is to say, we maintain that constitutional syphilis attacks an individual once only."—P. 71.

We cannot agree with Mr Coulson in the opinion which he gives with very considerable decision, that syphilis was unknown to the Greek and Roman writers, and that the descriptions handed down to us for nineteen centuries after Hippocrates were confined to "ulcerations of the genital organs and suppurating bubo."

Mr Coulson believes that 1495, the year of the siege of Naples, was the starting-point of this new and terrible constitutional disease; and that by 1520 it had moderated in severity and attained very much the same characters that it now possesses.

With this very unlikely, though once fashionable theory, we cannot agree, and we would refer Mr Coulson to the first volume of Lanceriaux's treatise for a most elaborate and erudite confutation of it, and an accumulated mass of positive evidence to the contrary, culled from Chinese, Indian, Greek, Latin, and Middle-age writers, which we think is sufficient to convince the most sceptical that syphilis was known to the ancient, and did not arise *de novo* in 1495.

Mr Coulson's chapter on the laws of constitutional syphilis is well written, and the laws are sufficiently brief. The fifth, on the subject of *unicity*, or the fact that constitutional syphilis occurs only *once* in the same individual, contains in a brief space a mass of very distinct evidence.

The chapter on malignant syphilis gives a well-written and close description of those cases, fortunately rare, in which the disease assumes the rapid and fearfully destructive type, and resembles in its characters the disease as it appeared at the siege of Naples. It is characterized by the tendency to rupial eruptions, followed by deep and spreading ulceration, and by the peculiarly low and depressing character of the preliminary fever.

The succeeding chapters on the various forms of secondary symptoms are well written, pictorial in their descriptive power, and thus thoroughly readable.

We come now to the treatment of the secondary stage of the disease; and the great question first meets us, Mercury or no mercury? and if mercury is to be used, how is it to be given? After briefly setting forth several of the various opinions of authorities on this subject, Mr Coulson gives his own. He gives mercury in many cases, but mildly and hence sensibly. He is in the habit of saying to his pupils,—

"Be in no hurry to administer mercury for the cure of the initial ulcer, or the probable extinction of the disease which it is to develop. Hold your hand till constitutional symptoms manifest themselves; you will then be enabled to form some opinion as to the kind of soil in which the seed has been sown, as to the mildness or severity of the disease, as to the degree of aid which you may expect to meet with through the resisting powers of the constitution."—P. 210.

Again,—

"I do not think that it is prudent to superadd a mercurial action on a syphilitic poisoning during such a period as six months, and then perhaps discover at the end that our remedy has been anything except an antidote."—P. 211.

Again,—

"We are better acquainted with those circumstances under which mercury should not be employed plentifully or pushed rapidly than with those which,

considered generally, admit of the contrary practice. Mercury must be administered carefully, and with a sparing hand to serofulous subjects; it is altogether unsuited to cachectic patients during the stage of visceral syphilis, or to those whose constitutions have been damaged under the combined influence of mercury and syphilis."—Pp. 212, 213.

As to the method of giving mercury, Mr Coulson translates M. Ricord's rules for treatment, taken from the last edition of his "Treatise on Chancre."

Mr Coulson's own method is inunction of from half a drachm to a drachm of the strong mercurial ointment every night. The part to be rubbed is the sole of the foot, on which the patient should wear thick woollen socks night and day. In cases where it is wished to keep up the action of the remedy for a long time, he used the abdominal belt rubbed with mercurial ointment.

On the important subject of the visceral lesions, the result of syphilis, Mr Coulson does not go beyond what is already known. He quotes freely from Virchow's account of the deep-seated gummy tumour, and also quotes Budd, Lebert, Robin, Wilks, Bristowe, Moxon, and Weber, whose name by a typographical error is misspelt *Webber*.

In a word, the student will obtain in this work a sufficiently full and yet not overloaded account of these most important visceral lesions; the cerebral, pulmonary, and hepatic ones deserve special praise.

The book is very nicely got up, with excellent paper and type. There are fewer printer's errors than usual; though one at page 121, by which a *popular* eruption is made *popular*, must be corrected in a future edition.

We have left ourselves no room to analyze the larger and greater work of M. Lanceraux. It is of very great value, encyclopædic in its minuteness and fulness of detail; scientific in its arrangements, it aims rather at being a reservoir of knowledge from which teachers may draw, than a manual for the instruction of the student. It gives the history, geography, pathology, and treatment of syphilis, both acquired and congenital, with very great completeness.

The translator has done his work carefully, with perhaps a little want of elegance, which, however, can hardly be expected on such a subject.

As usual in French works, there is a great want in the absence of a proper table of contents. An index has been supplied by the translator, but it is small and not particularly full or well arranged.

Part Third.

MEDICAL NEWS.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

(Continued from page 285.)

MINUTES OF MEETING, *Monday, July 12, 1869.*

The minutes of last meeting were read and confirmed.

1. Moved by Dr Christison, seconded by Mr Hawkins, and agreed to:—
“That the ‘Examination of (Senior) Candidates for Honorary Certificates’ under the Local Examinations of the University of Edinburgh, and the ‘Voluntary Examinations’ of Christ’s Church, Canterbury, New Zealand, be added, according to the recommendation of the Committee of Council on Preliminary Examination in its Report received on the 10th instant, to the Examinations accepted by the Council as satisfactory evidence of General Education prior to entrance on Medical Study, provided that the Pass Certificates of these Examinations attest an examination on all the subjects required by the Council.”

2. *Read*—The Report of the Committee on Amendment of the Medical Acts.

Moved by Dr Alexander Wood, seconded by Mr Cooper, and agreed to:—
“That the Report of the Medical Acts Amendment Committee be received and entered on the Minutes.”

REPORT.

Committee.—Dr Paget, *Chairman*; the President (Dr Burrows); Dr Bennett; Mr Hawkins; Dr Andrew Wood; Dr Apjohn; Sir D. Corrigan, Bart.; Dr Parkes; Dr Quain; Dr Christison.

The Committee on Amendment of the Medical Acts appointed July 1, 1869, in considering the subject remitted to them, have reviewed the various Medical Acts, and also the clauses of the Medical Acts Amendment Bill, agreed upon in former sessions of the Medical Council; and have paid particular attention to the suggestions in the communication from the Lord President of the Council, dated May 14, 1869, and to the several documents referred to them by the Medical Council in the course of its present session, viz.:—Memorial from the Garioch and Northern Medical Association; Letter from Dr Prosser James; Memorial from the Lothians Medical Association; Letter from the Parliamentary Committee of the British Medical Association; Letter from Dr Buhner respecting Canadian Degrees; Letter from Dr Forster respecting Registration in the Channel Islands; Memorial from Dr Bell Fletcher and numerous other members of the medical profession.

The amendments of the Medical Act, which have been already much discussed and agreed to by the Council in former sessions, consist of clauses which relate—to the Qualification of Members of Council; to regulations concerning the Register; to the Registration of Foreign and Colonial Qualifications; to additions to the List of Qualifications; to the assumption of titles by unregistered persons, etc., etc. (See Appendix.)

The Committee recommend that all these clauses, except Clause XI., should be retained in their present form, in any bill for amendment of the Medical Acts.

With respect to Clause XI., which is as follows, the Committee are of opinion that it should be reconsidered:—“XI. It shall be lawful for the

General Council, by special orders, to dispense with such provisions of the Medical Acts, or with such part of any regulations made by authority of the said Acts, as to them shall seem fit, in favour of persons who shall make applications to be registered under the said Acts on foreign or colonial diplomas or degrees: Provided such persons shall have resided in the United Kingdom for a period of not less than *twelve months* immediately previous to making application to be registered: Provided the holders of these diplomas or degrees have a right to practise Medicine or Surgery in the countries where they have been granted: And provided the Council shall receive satisfactory evidence that those degrees or diplomas, or licenses to practise, have been granted after a course of study and examinations such as to secure the possession by persons obtaining them of the requisite knowledge and skill for the practice of their profession."

The Council are aware that the Secretaries of State in successive Governments have, on former occasions, pressed upon the Council the necessity of dispensing with or greatly relaxing its regulations (by which those who obtain British qualifications are bound) in favour of persons holding foreign or colonial diplomas or degrees. The Council are aware that this condition appeared on former occasions as a *sine qua non* to the consent of the Government to introduce any Bill for amending the Medical Acts.

The Committee are of opinion that the object aimed at may be attained most simply and safely by a slight modification of sect. 46 of the Medical Act of 1858. This section empowered the Council to dispense with its regulations in favour *inter alios* of "persons practising Medicine or Surgery within the United Kingdom on foreign or colonial diplomas or degrees, before the passing of this Act."

Adopting the form and provisions of the section now cited, the new clause would be as follows:—"XI. It shall be lawful for the General Council, by special orders, to dispense with such provisions of the Medical Acts, or with such parts of any regulations made by the authority of the said Acts as to them shall seem fit, in favour of persons applying to have their names entered on the *Medical Register*, in virtue of foreign or colonial diplomas or degrees."

If this clause should become part of an amended Medical Act, it would then be the duty of the Council to consider how far and in what way its regulations should be relaxed in favour of any person or persons applying to be registered on foreign or colonial diplomas or degrees. The Council would have to consider what is due out of professional comity to graduates of trustworthy and distinguished colonial and foreign Universities, and at the same time not to forget the regard that is due to the rights and privileges of the holders of British diplomas and degrees, which have been obtained after courses of study and examinations supervised and approved by the Council.

The communication from the Lord President of Council invites the consideration of the Medical Council to two points; and on one of these an opinion is expressed that the Medical Act is defective. In this opinion your Committee concur.

They agree with the Lord President in considering that the Act is seriously defective, in that it allows a minimum qualification in Surgery to be registered without any qualification in Medicine, and similarly a minimum qualification in Medicine without any qualification in Surgery. The Act indeed not only permits, but requires, the Medical Council to place upon the Register any applicant possessing one such single qualification. The Council has no option or discretion in regard to such applications, but is bound by the Act to comply with them.

The Committee agree with the Lord President in regarding this state of things as open to serious objection, the more so as the number of persons thus practising both Medicine and Surgery on a single qualification is undoubtedly very large.

It appears, however, from the analysis of titles alluded to in the Lord President's communications, that the number of such persons is decreasing at

the rate of about sixty a year, although the total number of persons on the Register is increasing in much larger numbers.

The Committee think that the Lord President should be made acquainted with what the Council have already done in endeavouring to remedy this defect in the Medical Act.

The Council have included both Medicine and Surgery in a list of subjects, which they have recommended to the licensing bodies as "subjects without a knowledge of which no candidate should be allowed to obtain a qualification entitling him to be registered."

But the Committee doubt whether the Medical Act would enable the Council to enforce the recommendation on any one of the licensing bodies that might refuse to adopt it.

The Medical Corporations and Universities have (chiefly within the last few years) made regulations which, by combining examinations of different bodies, or instituting separate examinations in both Medicine and Surgery, have done much towards insuring that persons shall not in future be placed upon the Register without an adequate knowledge of both subjects.

But the Committee are of opinion that the only adequate remedy for this acknowledged defect would be for the Council to accept, under an amended Medical Act, such powers as would enable them in the future to refuse registration to any person, whatever his legal qualification may be, who has not passed sufficient examinations both in Medicine and Surgery.

On the other point on which the Lord President's letter invites the consideration of the Medical Council, his Lordship expresses no opinion.

This point, as stated in his Lordship's communication, is, "whether, if new legislation is to take place, it would be desirable to change in any respect the constitution of the Council."

In discussing this question the Committee have fully considered the views and wishes expressed in the memorials and letters which have been received by the Medical Council from members of the medical profession.

In reporting on a matter of so much importance as this—whether any, and, if any, what, change should be made in the constitution of the Council, the Committee think it their duty not merely to lay before the Council the result of their deliberations, but to indicate also the principles and chief reasons by which they have been guided. There is one principle which is obvious and indisputable, viz., that the constitution of the Council should be such as may best fit it for the discharge of its duties, whatever these may be. In the Medical Act the Council is styled "The General Council of Medical Education and Registration." The duties imposed on the Council by the Act are four, viz., the supervision of medical education, the registration of qualified medical practitioners, the publication of a national Pharmacopœia, and a certain judicial function by the exercise of which the name of any registered practitioner "who shall be judged to have been guilty of infamous conduct in a professional respect," may be erased from the Register.

With regard to two of these duties little need be said. The registration has been made in accordance with the Act, and with an accuracy which has never been questioned. A British Pharmacopœia has been published, which has been universally acknowledged to be one of the best in existence. In this work the task has been accomplished of reconciling the different views and varying practice of the three sister kingdoms. The new British Pharmacopœia is acknowledged in England to be an improvement on the old London Pharmacopœia; in Scotland it is preferred to the Edinburgh Pharmacopœia, and in Ireland to that of Dublin.

In regard, therefore, to those two duties of the Council, there is no reason (but rather the contrary) for proposing any change in its constitution.

With respect to its judicial function thus much must be said—that a Council elected by the suffrages of the profession, as advocated in the memorials, would be entirely out of harmony with the constitution of other courts of justice in the United Kingdom, or indeed in any European state whatever. A Council

which should be in any considerable part elected by popular suffrages would not be allowed by the Legislature to retain the judicial power which is exercised by the present Council.

With regard to the last and most important of the four duties of the Medical Council, viz., the supervision of medical education, the Council would observe that the powers and means by which this supervision is to be exercised are defined in the Act, sections 18, 20, and 21. These are, in general terms, a power of requiring from the licensing bodies information as to the courses of study and examination to be gone through in order to obtain a qualification entitling a person to be registered, and a power of visiting the examinations, and lastly a power of representing to the Privy Council any serious defects in the course of study or examinations of any licensing body, and so depriving the said body of its privilege of granting qualifications until it shall have amended what was faulty or defective.

It is seen, therefore, that all the powers possessed by the Medical Council in respect to education, are exercised on or through the medium of the Medical Corporations and Universities, which confer the qualifications entitled to registration. Through supervision and visitation of examinations, and the communication of recommendations, a certain degree of control over the licensing bodies is conferred by the Act on the Medical Council.

Your Committee are of opinion that these bodies which are in a certain sense and degree governed by the Medical Council are, for that very reason, entitled to be represented in the Council. This seems no more than is required by justice. Experience has also shown its usefulness in facilitating the adoption by the licensing bodies of the views and recommendations of the Medical Council.

The Committee would observe also that the Universities and Medical Corporations are all, in various ways, peculiarly conversant with education, and with the best methods of testing the acquirements of persons seeking to enter the medical profession, and are thus peculiarly qualified for choosing the fittest persons for discharging those (the most important) functions of the Council which concern medical education and examinations.

The Committee are of opinion that Crown nominees are a requisite element in any body which, like the Council, has not only occasionally to discharge judicial functions, but also to watch over and protect the interests of the profession at large and secure the welfare of the public.

The Committee are therefore of opinion that the Council as constituted by the Medical Act is well and suitably constituted for performing the functions with which the Council was invested by that Act. The Committee think it right to add their opinion that the Council, thus constituted, has, in discharging its duties, met with a degree of success which is large in proportion to the period of its existence, and in relation to the work that had to be done, and the difficulties that had to be overcome. The variety in the views and practice as to medical education and examination which prevailed in the three divisions of the United Kingdom before the establishment of the Council has, of necessity, added greatly to its labours.

The Committee have very fully discussed certain suggestions contained in the memorials which have been received by the Council. One of these is, that in any amended Act the control of the Council over the licensing bodies should be strengthened and enlarged. If such additional powers were conferred on the Council, the Committee are of opinion that this would be an additional reason for maintaining the representation of these bodies in the Council as at present.

Another suggestion is for the extension of the powers and functions of the Council over a variety of objects relating rather to professional practice than to education. At present the Council has no powers in such matters. Its powers are defined in the Medical Act, and, as already mentioned, are confined chiefly to medical education. The Council has no power to control the relations either between members of the profession or between them and the

Government, nor has it any means of regulating or interfering with in any way the remuneration of the profession, whether for private or public services. It may be a question whether it would be advantageous for the profession that such power should be vested in the Council, whatever the constitution of the Council might be.

But the Committee are (unanimously) of opinion, that, if the Legislature should think proper to invest the Council with such extended powers and fresh duties, the members of the profession at large, who would in that case be brought more within the sphere of action of the Council, should have a more direct influence than they have at present in the election of its members. In expressing this opinion, the Committee are fully aware of the many inconveniences that would be incurred, and the many difficulties that would have to be surmounted in any plan for representing the profession in the Council otherwise than as it is now represented, whether by the plan suggested in the memorial presented in the last session from the Committee of Council of the British Medical Association, or by the plan alluded to in some of the documents referred to this Committee, or by any other measure.

The Committee observe that the Lothians Medical Association complain "that the funds by which the whole machinery of the Medical Act, including the General Council (is carried on) are derived . . . from a tax imposed upon each graduate or licentiate in Medicine and Surgery registered under the Medical Act," and "that such taxation, without commensurate representation of the body of practitioners, is an act of injustice to the great body of registered medical practitioners throughout the country."

The Committee would remark that there can be no difference of opinion as to the principle that liability to taxation entitles to representation in the taxing body. But they would further remark that the fee paid once for all by medical practitioners for entering their names on the Register cannot, in the ordinary sense of the words, be called a tax; and that the Council possesses no power whatever of taxing the registered practitioners.

In the numerous signed memorial from Dr Bell Fletcher and other members of the medical profession it is suggested that "in any future Act of Parliament provision be made for instituting prosecutions under it by a public prosecutor or other public functionary, on behalf of the General Medical Council, instead of leaving the voluntary enforcement of the law to individuals." The Committee are of opinion that this is a suggestion to which the attention of the Government should be drawn.

The Committee recommend that the letter of Dr Forster respecting Registration in the Channel Islands be remitted to the Executive Committee, with instructions to institute further inquiries on the subject, and, if they think proper, make a suitable representation to the Secretary of State for the Home Department, or other Government authority. G. E. PAGET, *Chairman*.

Appendix to Report of Committee on Amendment of the Medical Acts.

Draft of a Bill to Amend the Acts relating to Practitioners in Medicine and Surgery (as drawn up by the Medical Council in 1866 and 1867).

ARRANGEMENT OF CLAUSES.

Sections.—1. Construction and Short Titles. 2. Amendment of sect. 7 of Act of 1858. 3. Erasure by Order of Council. 4. Restoration of Name. 5. Repeal of sect. 14 of Act of 1858. 6. Registers to be corrected. 7. Erasure on Death. 8. Alteration of Address, etc. 9. Evidence of Death, etc. 10. Erasure on ceasing to practise. 11. Registration of Foreign and Colonial Practitioners. 12. Privy Council may add to List of Qualifications. 13. Application of Provisions 20, 21, 22, 29, and 30 of the Medical Act of 1858. 14. Degree of Bachelor of Surgery to be a Qualification. 15. Repeal of sect. 40 of Act of 1858. 16. Penalty for the Assumption of Titles, etc., by unregistered Persons practising Medicine or Surgery. 17. Extension of Savings to former Acts.

Whereas the Medical Act (1858) has been found ineffectual to enable persons requiring medical aid to ascertain who are qualified practitioners, and it is desirable to amend the said Act in several respects:

Be it enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

PRELIMINARY.

I. The Acts described in the Schedule to this Act and this Act shall be construed together as one Act: and for that purpose the expression "this Act," when used in the Medical Act (of the session of 1858), shall include the present Act; and the Acts described in the Schedule to this Act and this Act may be cited together as "the Medical Acts," and are comprised in that expression when hereafter used in this Act: and this Act may be cited separately as "the Medical Acts Amendment Act (1867)."

MEMBERS OF COUNCIL.

II. Section 7 of the Medical Act (1858) shall be read and have effect as if the words "qualified to be" were omitted therefrom.

REGISTRATION.

III. Where, under the authority of the Medical Acts, the General Council or any Branch Council direct the erasure of the name of any person from any Register, the name of that person shall not be again registered in any Register except by direction of the Council which directed the erasure, or by order of a court of competent jurisdiction.

IV. If the General Council think fit in any case, they may direct any Registrar to restore to his Register any name erased by him therefrom, and the Registrar shall restore the same accordingly.

V. Section 14 of the Medical Act (1858) is hereby repealed, but this repeal shall not affect the past operation of that section, or anything already done under it, or invalidate any existing register, order, or regulation kept or made under it, or affect any proceeding or thing commenced under it, or the power of the General Council to make any order in relation thereto; and every such proceeding or thing may be carried on and done as if the said section had not been repealed.

VI. Each Registrar shall keep his Register correct in accordance with the provisions of the Medical Acts and the general regulations and special directions of the General Council (whether made or given before or after the passing of this Act).

VII. Each Registrar shall erase from his Register the name of any person deceased.

VIII. Each Registrar shall from time to time insert in his Register any alteration in the address or qualification of any person registered.

IX. In the execution of the aforesaid duties, each Registrar shall act on such evidence as in each case appears to him sufficient, subject to any regulations of the General Council.

X. Each Registrar may erase from his Register the name of any person who, having ceased to practise, shall desire to have his name removed from the Register; and each Registrar may send by post to any person registered in his Register a registered letter, addressed to that person according to his registered address, inquiring whether or not he has ceased to practise, and whether he desires his name to be retained on the Register. And if the Registrar does not, within three months after sending such a letter, receive any answer thereto from the person to whom it is sent, he may, within fourteen days after the expiration of the said period of three months, send by post to that person another registered letter, addressed to him according to his registered address, referring to the first letter and stating that an answer thereto has not been received by the Registrar, and if the Registrar does not within three months after sending such second letter receive any answer thereto from the person to whom it is sent, that person shall, for the purpose of the present section, be

deemed to have ceased to practise, and not desire to have his name retained on the Register. And the name of any person shall not (without his consent) be removed from the Register on the ground of his having ceased to practise, except in pursuance of the provisions of the present section: provided that a person whose name has been erased from the Register with his consent, on the ground of his having ceased to practise, shall not be liable to any penalty under this section, by reason of his being engaged gratuitously in the cure or treatment of any disease or injury.

XI. It shall be lawful for the General Council, by special orders, to dispense with such provisions of the Medical Acts, or with such part of any regulations made by authority of the said Acts, as to them shall seem fit, in favour of persons who shall make applications to be registered under the said Acts on foreign or colonial diplomas or degrees: provided such persons shall have resided in the United Kingdom for a period of not less than twelve months immediately previous to making application to be registered: provided the holders of those diplomas or degrees have a right to practise Medicine or Surgery in the countries where they have been granted: and provided the Council shall receive satisfactory evidence that those degrees or diplomas, or licenses to practise, have been granted after a course of study and examinations such as to secure the possession by persons obtaining them of the requisite knowledge and skill for the practice of their profession.

XII. If it appear to the Privy Council, on representation by the General Medical Council, that any qualification, other than those described in Schedule (A) to the Medical Act (1858), as amended by this or any other of the Medical Acts, is granted by any University, College, or body in the United Kingdom, legally entitled to grant the same, after such a course of study and such examination as guarantee to the satisfaction of the General Medical Council, that any person to whom such qualification has been granted possesses the requisite skill and knowledge for the efficient practice of Medicine or Surgery, it shall be lawful for Her Majesty in Council to direct by order, that every person holding such qualification shall be entitled to be registered under the Medical Act (1858), in the same manner and with the like effect as if the qualification were inserted in the Schedule (A) to the Medical Act (1858).

XIII. The provisions contained in sections 20, 21, 22, 29, and 30 of the Medical Act (1858) shall apply to any qualification which in pursuance of this Act entitles persons to be registered under the Medical Act (1858).

XIV. The degree of Bachelor of Surgery conferred by any University in the United Kingdom, which now is, or hereafter shall be, legally entitled to confer the same, shall, for the purpose of enabling any person to be registered under the Medical Act (1858), be deemed to be one of the qualifications described in Schedule (A) of that Act.

UNREGISTERED PERSONS.

XV. Section 40 of the Medical Act (1858) is hereby repealed; but this repeal shall not apply to or in respect of any offence committed before the passing of this Act, or affect any proceeding pending at the passing of this Act.

XVI. If any person practising Medicine or Surgery, or engaged in the cure or treatment of diseases or injuries, not being registered under the Medical Acts, takes or uses any of the designations enumerated in Schedule (A) to the Medical Act (1858) as amended by this Act or by any other of the Medical Acts, or the designation of Physician, Surgeon, Doctor, or Apothecary, or any other designation used by or used to distinguish duly qualified practitioners of Medicine or Surgery, or any class thereof, or the designation of Professor of Medicine or of Professor of Surgery, he shall for every such offence be liable on summary conviction to a penalty not exceeding twenty pounds.

SAVING.

XVII. Nothing in this Act shall prejudicially affect any occupation, trade or business, rights, privileges, or employment expressly saved from the opera-

tion of the Medical Act (1858), or affect the rights or interests of any person or class of persons expressly exempted or protected by any provision of any of the Acts described in the Schedule to this Act.

Moved by Mr Caesar Hawkins, seconded by Dr Storrar, and agreed to :—
 “That the letter of Dr Forster respecting registration in the Channel Islands be remitted to the Executive Committee, with instructions to institute further inquiries on the subject, and, if they think proper, make a suitable representation to the Secretary for the Home Department, or other Government authority.”

Moved by Dr Bennett, and seconded by Dr Christison :—“That Clause XI. in the proposed Medical Amendment Act shall stand as follows : ‘It shall be lawful for the General Council, by special orders, to dispense with such provisions of the Medical Acts, or with such parts of any regulations made by the authority of the said Acts, as to them shall seem fit, in favour of persons applying to have their names entered on the Medical Register in virtue of foreign or colonial diplomas or degrees.’”

Amendment moved by Sir D. Corrigan, and seconded by Dr A. Smith :—
 “That it appears desirable, before any further attempt is made to introduce amendments of the Medical Acts, that a Royal Commission of Inquiry should issue, to take evidence from such members of the Medical Council, and such other persons as the Commission may see fit to examine, with the view of furnishing a report to serve as the basis for legislation.”

The amendment was negatived.

The motion was carried.

Moved by Dr Christison, and seconded by Dr Bennett :—“That in the opinion of this Council it is desirable that power be given to the Medical Council to refuse registration to any one who has not been sufficiently examined both in Medicine and Surgery.”

Amendment, moved by Dr Andrew Wood, and seconded by Dr Embleton :—
 “That it is desirable that power be given to the Medical Council to refuse registration to any person who has not both a legal qualification in Medicine and a legal qualification in Surgery.”

The amendment was negatived.

The motion was carried.

Moved by Dr Bennett, seconded by Dr Christison, and agreed to :—“That having carefully considered the objects of the Medical Act of 1858, and the constitution of the Council appointed under that Act to carry out its objects, the Council are of opinion, that for the purposes of the existing Act, the present Council is essentially well constituted.”

Moved by Dr Bennett, seconded by Dr Apjohn, and agreed to :—“That the Council are of opinion, that if the Legislature should think proper to invest the Council with extensive powers and fresh duties, by which the profession at large would be brought more under the direct influence of the Council, then in that case the profession at large should have more direct influence in the appointment of members of Council.”

Moved by Dr Storrar, seconded by Dr A. Smith, and agreed to :—“That in any future Act provision should be made for instituting prosecutions by a public prosecutor, or other authorized functionary, instead of leaving the enforcement of the law to the voluntary action of individuals of the public.”

Moved by Dr Bennett, and seconded by Mr Hargrave :—“That the Report of the Committee be adopted.”

The motion was not carried.

Moved by Sir D. Corrigan, seconded by Dr A. Smith, and agreed to :—
 “That the President be requested to write to the Lord President of the Council, to the effect that, on the receipt of his Lordship’s communication of the 14th May, it was referred to a Committee of the General Council appointed

to consider the amendments of the Medical Acts; that the enclosed was the Report submitted to the Council by the said Committee, but not as a whole adopted; but that the following resolutions were adopted."

Moved by Dr Bennett, seconded by Sir D. Corrigan, and agreed to:—"That the President and Executive Committee shall be authorized (if it shall appear necessary) to confer with the Government on the subjects referred to in the Lord President's communication, and report the results of any such conference to this Council at their next meeting."

3. *Read*—The Report of the Committee on Communications from Dr John Harley, Mr Courtauld, Dr MacLoughlin, and Dr Edwards Crisp.

Moved by Dr Thomson, seconded by Mr Hargrave, and agreed to:—"That the Report of the Committee on Communications from Dr John Harley, Mr Courtauld, Dr MacLoughlin, and Dr Edwards Crisp, be adopted and entered on the Minutes."

REPORT.

The Committee have to report that, having considered the several letters submitted to them with the accompanying documents, they are of opinion that it does not fall within the province of the Council to interfere in the matters referred to in any of the letters. They recommend, therefore, that the Secretary of the Council be directed to reply to each of the authors of the letters, informing them of the inability of the Council to take action in the matters referred to. And they further suggest that the reply to Dr Crisp should be in the same terms as that given by the Council on the 3d July 1868, to a previous letter by Dr Crisp on the same subject as his present letter.

ALLEN THOMSON, *Chairman of Committee.*

4. Moved by Dr Alexander Wood, seconded by Dr Fleming, and agreed to:—"That the following Report of the Committee on Returns from the Licensing Bodies of Professional Examinations and their results, and on the Registration of Students for the year 1868, be received and entered on the Minutes."

REPORT.

The Committee on Returns from the Licensing Bodies of Professional Examinations and their results, and on the Registration of Students for the year 1868, present—

1. The Table (see p. 319), compiled from the Returns, according to Recommendation 6, sec. v. (Professional Examination) of the Recommendations of the Council, 1866, viz., "that Returns from the Licensing Bodies be made annually, on the 1st of January, to the General Medical Council, stating the number and names of the candidates who have passed their first as well as their second examinations, and the number of those who have been rejected at the first and second examinations respectively."

2. The number of Students registered during the year 1868 is as follows:—In England, 483; in Scotland, 266; in Ireland, 175—total, 924.

3. The Committee have received from the representatives of the under-named bodies, the following observations, in reply to inquiries whether they require that an examination in general education shall be really preliminary to the commencement of Medical Education.

King and Queen's College of Physicians in Ireland.

In the regulations of this body respecting education, "candidates are required to have passed, within the period specified, an examination in General Education held by some of the qualifying bodies, or by some one of the National Educational Bodies approved by the College."

It does not clearly appear from the published regulations what "the period specified" exactly means, but for some years past it has rarely occurred that any candidate has presented himself for examination who had not already obtained a Surgical qualification or a degree in Medicine.

The Royal College of Surgeons.

With the Royal College of Surgeons in Ireland the rule is absolute to require candidates to pass a preliminary examination before commencing medical study.

The Apothecaries' Hall in Ireland.

The Apothecaries' Hall requires in all cases the preliminary examination to be passed before medical study is begun.

University of Dublin.

The great bulk of the medical class in Trinity College is composed of Students in Arts, and these are, as respects preliminary education, entirely in accordance with the regulations of the Medical Council, for they have necessarily passed the Entrance Examination, which is one of the examinations in preliminary studies recognised by the Council. A clause, indeed, in the School of Physic Act is understood to secure to extra students—*i.e.*, to persons not Students in Arts—the privilege of joining the Medical School, and pursuing in it their medical studies, and a few students avail themselves of such privilege. Such students, however, cannot get a degree or even a license in Medicine from the Dublin University, and they are not included in the list which it forwards to the Branch Council with a view to registration. Nevertheless the names of these students are found on the Register, so that, though their attainments in general education are not tested by the University, they must have satisfied the Registrar of the Irish Branch Council that they have passed a Preliminary Education in Arts conducted by some other institution.

Queen's University in Ireland.

No communication as to this body has yet been received.

D. EMBLETON, M.D., *Chairman.*

5. Moved by Dr Alexander Wood, seconded by Mr Hargrave, and agreed to:—"That it be remitted to the Branch Council for England to investigate, according to the Standing Orders, the charges against Lima Abraham La'Mert, which led the Royal College of Surgeons of England, and the Royal College of Physicians of Edinburgh, to deprive him of his license from these bodies respectively. That in the event of the Branch Council for England coming to the conclusion that these charges can be substantiated, and involve infamous conduct in a professional respect, the Branch Council shall report the same to the Executive Committee. That the Council by Clause IX. of the Medical Act delegate to the Executive Committee their powers of summoning Lima Abraham La'Mert to appear before them, and of striking his name off the Register if they see cause."

6. Moved by Dr Alexander Wood, seconded by Dr Embleton, and agreed to:—"That the Report of the Committee on the re-arrangement of the Recommendations and Opinions of the Council on Registration, Education, and Examination, be received and entered on the Minutes, and that copies of the Recommendations be printed and sent as usual to the Licensing Bodies. That the following be included in the List of Examinations which are considered sufficient evidence of Preliminary Examination in Arts:—"Examination of (Senior) Candidates for Honorary Certificates under the Local Examinations of the University of Edinburgh. Voluntary Examinations of Christ's College, Canterbury, New Zealand."

REPORT.

The Committee appointed to re-arrange the Recommendations and Opinions of the Medical Council on Education, Examinations, and Registration, laid before the Council a re-arrangement of the above-named Recommendations.

G. E. PAGET, M.D., *Chairman.*

7. Moved by Dr Acland, seconded by Dr Macrobain, and agreed to:—"That it be referred to the Executive Committee to consider with Mr Ouvry the Resolution of the Council with respect to the Report on State Medicine, and

to take the steps necessary for carrying the Resolution into effect. That the State Medicine Committee be re-appointed, and that the Report and Appendix on State Medicine be forwarded by the Committee, with the Resolution of the Council thereon, to the Licensing Bodies and persons interested in the subject of State Medicine, requesting their observations thereon; and that the Committee present those communications, or a digest of them, to the next meeting of the Council."

8. *Read*—The Report of the Pharmacopœia Committee.

Moved by Dr Christison, seconded by Dr Storrar, and agreed to :—"That the Report of the Pharmacopœia Committee be received and adopted."

REPORT.

The Pharmacopœia Committee appointed by the resolution of the Council, July 7, 1868, have to report that, in accordance with the directions of the Council, they caused to be printed a slip copy of certain slight typographic and minor errors, which required correction in the Pharmacopœia of 1867. These slips were inserted in the unsold copies of the Pharmacopœia, and were issued to those who had already purchased copies of the work. A re-issue of the Pharmacopœia having since been required, those slight corrections have been introduced into the work, which is in all other respects identical with the copies previously issued. The Committee have engaged during the past year the services of Dr Redwood, in watching over the progress of Pharmacy, and in making record of such corrections and additions as would hereafter facilitate the preparation of a future edition of the Pharmacopœia. In that duty he has received various suggestions from the members of the Committee, and has submitted a Report to the Committee which has been reserved for future use. He has, however, been requested to bring before the Pharmaceutical Society the substance of his first two reports to this Committee, with a view to the discussion of points needing inquiry or investigation.

The Committee have expended £30 from the sum of £50 placed at their disposal. It is recommended that the Committee be re-appointed, and that the sum of £50 be again placed at their disposal for the ensuing year.

July 8th, 1869.

R. CHRISTISON, *Chairman*.

Moved by Dr Storrar, seconded by Sir D. Corrigan, and agreed to :—"That the Pharmacopœia Committee be re-appointed, and consist of Dr Christison, Dr Sharpey, Dr A. Smith, and Dr Quain.

9. *Read*—A Memorial which had been presented by the Obstetrical Society of London to Her Majesty's Secretary of State for the Home Department.

10. *Read*—A Memorial from the Medico-Ethical Association of Manchester on the subject of the Medical Act.

11. *Read*—A Communication from the President and Council of the Royal College of Surgeons of Edinburgh.

Moved by Dr Bennett, seconded by Dr A. Smith, and agreed to :—"That the President of the Royal College of Surgeons of Edinburgh be informed that he is in error in supposing that the document to which he refers was not received by this Council; that the document was received and respectfully considered by the Council, but that it was not thought expedient to depart from their invariable practice of not inserting such communications on their Minutes."

12. Moved by Dr Andrew Wood, seconded by Dr Macrobain, and agreed to :—"That the Standing Order be suspended till 6.30, or the termination of the business of the Council."

13. Moved by Dr A. Smith, seconded by Dr Embleton, and agreed to :—"That the powers and duties delegated to the Executive Committee, in accordance with Sect. IX. of the Medical Act (see Standing Orders, sect. 6), shall be vested in the Committee until the next meeting of the General Medical Council."

14. Moved by Dr A. Smith, seconded by Dr Fleming, and agreed to:—"That the Executive Committee be requested to take such steps as they may deem best to obtain from the Government suitable apartments for the use of the Council."

15. Moved by Dr A. Smith, seconded by Dr Embleton, and agreed to:—"That a seventh volume of the Minutes of the General Medical Council, the Executive Committee, and the Branch Councils, with a complete Index up to the present time, be published without any unnecessary delay."

Votes of thanks were then moved to the Treasurers, Drs Sharpey and Quain; to the Royal College of Physicians, London, for the accommodation (with a gratuity of twenty guineas to the resident officials); to Dr Andrew Wood, as Chairman of the Business Committee; and finally to Dr Paget, the President.

TESTIMONIAL TO MR SYME.

At a meeting of former pupils of Mr Syme, held at the house of Dr Murchison, London, last July, it was resolved to call a general meeting in London in October, for the purpose of inaugurating a testimonial to Mr Syme on the occasion of his relinquishing the Chair of Clinical Surgery in the University of Edinburgh. It is proposed that this testimonial shall have a twofold object; viz.: 1. To place a marble bust of Mr Syme in the hall of the new Royal Infirmary; and, 2. To found a Fellowship in Surgery in the Edinburgh University, to be called "The Syme Surgical Fellowship." Gentlemen desirous of serving on the Syme Testimonial Committee are requested to forward their names to Dr Murchison. We apprehend that there will be no great difficulty in raising the sum of £2500 required for the above objects among the many former pupils of Mr Syme, who have profited so much from his admirable clinical instructions.

MR SYME AND THE ROYAL INFIRMARY.—At a meeting of the Managers of the Royal Infirmary of Edinburgh, held on the 26th August, a letter from Mr Syme was read, resigning his position as one of the acting surgeons of the hospital. The Managers received the resignation, and unanimously adopted the following resolutions, viz.—"That the Managers of the Royal Infirmary receive with much regret Mr Syme's resignation of his office as one of the acting surgeons of the hospital, the duties of which office he, during his long and brilliant career, has performed with so much benefit to the patients, and with so much honour to the Medical School of Edinburgh: That the Managers, being anxious that Mr Syme should still remain connected with the hospital, request that he will accept of the appointment of one of the consulting surgeons."

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

At the meeting of this Society, held on Friday the 3d September, in the hall of the Faculty of Physicians and Surgeons, the following gentlemen were elected office-bearers for the present session, viz.:—*President*—Dr J. G. Fleming. *Vice-Presidents*—Dr E. Watson, Dr Steven. *Council*—Dr G. H. B. Macleod, Dr A. R. Simpson, Dr Richmond, Paisley, Dr F. Thomson, Mr Torrance, Airdrie, Dr H. Thomson, Dr James Gray, Mr Robert Grieve. *Secretaries*—Dr James Adams, Dr R. Perry. *Treasurer*—Dr H. R. Howatt.

OBITUARY.

THE LATE DR BEGBIE.

IN the last number of the Journal, we briefly announced the death of Dr Begbie, which had occurred on the 26th of August. The event was not unexpected, inasmuch as, for several weeks previously, Dr Begbie had been unable to undertake any professional engagement, and was known to be suffering from attacks of breathlessness, some of which were of a very severe and distressing character. His illness had its commencement in December 1868, when, after exposure to cold, he became affected by pneumonia, not extensive in character, in the left lung. Confinement to bed for ten days led to his recovery, and these ten days should have been succeeded by other ten of perfect rest; but this was prevented by Dr Begbie's earnest desire to be again actively engaged in his professional duties. To these he returned before the close of the year, and continued them without interruption till the commencement of May. During these months he underwent more than usual fatigue, and unhappily suffered more than ordinary exposure, owing to the nature and length of some journeys he was called to undertake. It became evident in May that his natural vigour, previously so great, had become seriously impaired, and he was observed to suffer from breathlessness, on making exertion of any kind, but particularly upon ascending stairs. At this time also the action of the heart, which for a space of years had been feeble, became still more embarrassed. Absolute rest was clearly necessary, and for a time seemed to promise restoration. In June, however, a change of air and scene, which he had himself desired, produced no benefit, and soon after his return home after a very brief absence, it was only too evident that the powers of nature were yielding to the advance of organic cardiac disease. Considerable œdema of the lower extremities supervened, while the attacks of dyspnoea, although at this time lessened in frequency, were still occasionally urgent. Appetite now failed, and his strength rapidly declined. The immediate cause of death was an attack of pulmonary congestion, attended by the expectoration of a considerable amount of dark blood. He remained conscious, and in the full possession of his faculties, till the very close of life. For him death had no terrors; and so throughout the whole of his trying illness, and in the dark hour itself, he was able to endure suffering without murmuring, and to look forward without fear, having confidence in Him in whom he believed.

Dr Begbie was born in Edinburgh at the close of last century, and at the time of his death was within four months of completing his seventy-first year. He received his early education at the High School, and his entire professional training in the University, and with Dr Abercrombie, whose apprentice he first was, and afterwards assistant. Dr Begbie's duties while connected with Dr Abercrombie as his assistant were of a varied character, and such as, when performed with the diligence and devotion he brought to them, were admirably fitted for developing his natural talents, and those resources which became in after life so conspicuous and so useful. He visited and prescribed for the poor with Dr Abercrombie's apprentices, instructing at the same time the latter; he visited also largely for Dr Abercrombie, among his private patients; and he conducted for him, to a great extent, those post-mortem examinations

and pathological investigations, which contributed so materially to the eminence of Dr Abercrombie after the publication of his treatises on Diseases of the Brain and Stomach. Dr Begbie possessed the entire confidence of Dr Abercrombie, and proved to him a most valuable and attached assistant. Nothing could testify more strongly to the high attainments and genial character of Dr Begbie, at this early stage of his professional career, than the uniform love and respect entertained for him by the pupils of Dr Abercrombie. That love and esteem were equalled, they could not be surpassed, by the same feelings in those who subsequently became his own apprentices. Among these were some of the presently best known medical men in our city.

On relinquishing, after several years' continuance, his connexion with Dr Abercrombie, Dr Begbie became speedily engaged in an extensive private practice, and this he continued till about twenty years ago, since which time he has been entirely occupied in the important and responsible duties of a Consulting Physician. How these duties were fulfilled may be best judged of by the eminence which he attained in this particular sphere, and by the affectionate regard with which he was looked upon, alike by his professional brethren in all parts of the country, and by those who sought his advice.

Dr Begbie was a laborious worker; he was always busy, and perhaps, unfortunately in one sense, the requirements of his profession were in his case, throughout his whole life, almost excessive. He had little time, or rather he allowed himself scarcely any time, for relaxation. A holiday in summer was with him a matter of a few days. Some summers he dispensed even with these few days. Yet he thoroughly enjoyed a holiday; no man indeed could do so more thoroughly. He was a devoted admirer of Nature, and found his greatest delight in her contemplation. The English lake scenery he frequently visited, and was, as nearly as possible, perfect in his knowledge of its topography. He never visited a place, either on professional duty or as a traveller, without making such inquiries, added to careful observation, as fixed it indelibly in his powerful and retentive memory for ever. This peculiarity of his was well known to his friends, and often have they availed themselves of it, in planning excursions, or fixing routes for journeys.

Up to the very latest period of his active life, Dr Begbie took a keen interest in everything connected with the advancement of the medical profession. His natural retiredness of disposition, and objection to public appearances, indeed, may have prevented him getting the credit he deserved in this respect. He endeavoured to make himself familiar with all recent advances in medicine, and his published writings show how fully acquainted he had made himself with the whole burden of observation and investigation in those subjects, a knowledge of which he himself advanced. He ever took a profound and affectionate interest in the welfare of the younger members of the profession who came within the sphere of his acquaintance and influence; and there are many who, profiting by his wise and friendly counsel, will be ready to admit that their early professional success arose, in great measure, from their connexion with him.

Dr Begbie had little time for authorship, but his writings on many important subjects indicate his possession of a rare faculty of original observation, and bear witness to the soundness of view and great practical tact by which he was eminently distinguished. His thesis "*De Delirio Trementi*" may be perused with advantage now on account of its latinity, and the able summary it offers of the pathology and treatment of the disease. His probationary essay

when a candidate for the fellowship of the Royal College of Surgeons, on the Actual Cautery, is an elegantly written and interesting paper. The work, however, by which his name will be long held in remembrance and respect, consists of a series of essays, contributed chiefly to our own pages, on various medical subjects, embracing a pretty full exposition of his own pathological views.¹ These were humoral essentially, although he had never gone so far as to deny the important relation of the solids to the very earliest morbid changes. His observations on Gout, on Rheumatism and Chorea, on Erythema Nodosum, on the Oxalic Acid Diathesis, on Erysipelas, and on Diphtheria, will be always held in esteem; and whether they succeed in convincing his readers of the correctness of his pathological doctrines or not, will undoubtedly guide them in the treatment of these disorders. We know of no contribution to periodical medical literature which, at the time of its appearance, created a greater amount of interest than Dr Begbie's essay on Fatty Degeneration of the Heart. The disease had at that period attracted comparatively little attention—its importance could not be disputed—and the excellent illustration of its features in diagnosis was second only to the clinical record it contained of the cases of Dr Chalmers and Dr Abercrombie.

The therapeutical contributions of Dr Begbie are of a very high order, affording proof of his possession of a remarkable power of generalization, and an uncommon fertility in the suggestion of remedial means. The amplitude of his resources in this way was indeed one of the chief advantages he possessed as a consulting physician. His papers on Arsenic, on Stramonium, and on Bromide of Potassium—his most recent contribution—afford abundant evidence of the justness of this remark, while a willing testimony to its truth will be borne by all who have had the opportunity of meeting him in practice.

In his valuable essay bearing the title "Anæmia and its Consequences," Dr Begbie was the very first prominently to direct attention in this country to the disease now known as Exophthalmic Bronchocele, and sometimes called Basedow's and Graves's disease. It is true that before its publication some incidental reference to cases, which were evidently of the same nature, had been made by Dr Caleb Parry, Dr Graves, Dr Stokes, and others. But let the original essay of Dr Begbie be perused, and it will appear that in no way was he indebted to the observations of others, and that he was undoubtedly the earliest to recognise the entity of the disorder, whose triple features he so forcibly described. He was the earliest also to adopt and suggest a successful plan of treatment for it.

Dr Begbie was connected with the Scottish Widows' Fund Life Assurance Office, as its Medical Adviser, for the long period of thirty-seven years; and this position brought him into contact with many medical men in distant parts of the country. To the duty of selection of lives for assurance he devoted very considerable attention, and by his care and discernment advanced very decidedly this important department of professional inquiry. His contributions on the "Mortality of the Scottish Widows' Fund" opened up a new field in vital statistics, and have made his name known in many quarters beyond the bounds of his own profession.

Dr Begbie graduated in Medicine in 1821 in the University of Edinburgh, having been a Licentiate of the College of Surgeons for two years previously. In 1822 he was elected Fellow of the College of Surgeons, and at this time entered on the duties of private medical practice. In 1847, having become

¹ Contributions to Practical Medicine. Edinburgh: Adam and Charles Black: 1862.

much engaged in consulting practice, he joined the College of Physicians as a Fellow. Of that College he was President in 1854-56, and discharged the duties of the office with ability, dignity, and grace. For a few years after the institution of the office, he acted as one of the Examiners in Medicine in the University. During 1850-52 he was President of the Medico-Chirurgical Society. For several years he was Physician in Ordinary to the Queen in Scotland. He was also a Fellow of the Royal Society.

ANDREW KNOX DRYSDALE, Esq., F.R.C.S.E., SURGEON, H.M. 79TH
(CAMERON) HIGHLANDERS.

It is with deep regret that we record the death of the above officer, a native of this city and former pupil of the Medical School. He was the eldest son of William Drysdale, Esq., D.C.S., and received his education first at the Edinburgh Academy, and afterwards at the University. He took his diploma at Surgeons' Hall early in 1854, and soon after entered the army as staff-assistant-surgeon. He proceeded to Turkey with the expeditionary force in April 1854, and was appointed to the 79th Highlanders, with which distinguished regiment he served throughout the campaign, being present at the battles of Alma and Balaklava, and the siege and fall of Sebastopol. A severe attack of typhoid fever disabled him for a time, and obliged him to return home for a few months; but he went back to the Crimea and continued there till the final evacuation. In connexion with that campaign he possessed a medal and three clasps, as well as the Turkish Medal. In 1857 Mr Drysdale sailed for India with his regiment, and served throughout the eventful years of the Mutiny, and was present at many of the most important engagements, including the capture of Lucknow, for which he got a medal and clasp. Promoted to the rank of surgeon in 1864, he served at home for some time in the Royal Artillery, and on the retirement of Dr T. Goldie Scot he was reappointed to the 79th as surgeon, and proceeded again to India in 1867. Repeated attacks of intestinal derangement, aggravated by exposure during the great Durbar at Umballa, at length culminated in severe dysentery, which becoming chronic weakened him so much that he was ordered home in July last. The voyage home unfortunately proved of little benefit, and he was landed at Southampton on the 27th of August, almost in a dying state. He lingered for a fortnight, and finally sank on Friday the 10th of September, at Kelway's Hotel. Mr Drysdale was a man who made himself universally liked by both officers and men; whilst as a private friend his loss is one that will not be easily replaced. An upright character, combined with the happiest temper and most quaint and genial humour, rendered him not merely a pleasant companion but a warm and trusted friend. By his death the 79th Highlanders lose an old and much-loved comrade, and the army a valuable public servant. Mr Drysdale was made a Fellow of the Royal College of Surgeons of Edinburgh in 1867. He has left a widow and one son to mourn his loss.

ALEXANDER GUTHRIE, Esq., SURGEON, BRECHIN.

WE regret to have to record the departure of a well-known and distinguished provincial practitioner, Alexander Guthrie, Esq., Surgeon, Brechin, which event took place on the 22d August last. For the long period of nearly sixty years, Dr Guthrie was engaged in the active duties of his profession in his native

town and the surrounding district, and enjoyed in an eminent degree the confidence and esteem of a very wide circle, embracing all classes of society. His professional education was received under the famous men who filled the medical chairs at Edinburgh in the early part of the present century; and having obtained the license of the College of Surgeons, he subsequently continued his studies for a time under Cline, Sir Astley Cooper, and other distinguished teachers in the great metropolitan schools. Commencing practice at a very early age in the place of his birth, a long time did not elapse till he presented a striking exception to the ancient saying that "a prophet hath no honour in his own country." His reputation and his practice increased year by year, and before he had attained the middle period of life he was looked up to by the entire community as an eminently skilful and sagacious medical practitioner. For the last thirty years and upwards, his advice has been eagerly sought by high and low, not only in the more immediate sphere of his practice, but often by parties from remote distances. About eleven years ago, an elegant brougham was presented to him by his former pupils, and more recently, on reaching his medical jubilee, upwards of £500 was subscribed by a widespread circle of friends and patients, and embodied in a magnificent testimonial, which was presented to him at a public entertainment, presided over by Earl Dalhousie. "Physically," says a local paper, "the deceased was a fine type of the Scottish gentleman. Tall, and broad-shouldered, with a frame well proportioned and compactly knit, and a countenance both handsome and intelligent, it will be long before his striking figure and imposing presence are forgotten. His mental characteristics were equally typical of the Scottish intellect. He was shrewd, sagacious, original, and in an eminent degree practical, with great powers of observation, and an amount of common sense which often led him to the truth by a far more direct path than the circuitous one of logic and argument. . . . His social virtues were as remarkable as his mental abilities, and rendered him a favourite with all classes. His manner in private was peculiarly genial, kindly, and attractive, and patients have often remarked that in the sick-room it seemed to prove as efficacious as his prescriptions." Having served his generation nobly and well, he has gone down to the grave full of years and honours, mourned by high and low alike, who had so long enjoyed the benefit of his professional skill.

PUBLICATIONS RECEIVED.

- S. W. Butler, M.D., and D. G. Brinton, M.D.,—*Half yearly Compendium of Medical Science.* Philadelphia, 1869.
- Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques. Vol. II. Paris, 1869.
- Discussions on Syphilization in the Medical Society in Kristiania. Kristiania, 1869.
- Dr Faliu,—*De l'Urticaire.* Paris, 1869.
- Austin Flint, M.D.,—*Treatise on the Principles and Practice of Medicine.* Philadelphia, 1868.
- J. W. S. Gouley, M.D.,—*On External Perineal Urethrotomy.* New York, 1869.
- T. P. Heslop, M.D.,—*Realities of Medical Attendance on the Sick Children of the Poor in Large Towns.* London, 1869.
- Sir Wm. Jenner, M.D.,—*The Practical Medicine of To-day.* London, 1869.
- N. Krause and J. Telgmann,—*Les Anomalies dans le Parcours des Nerfs chez l'Homme.* Paris, 1869.
- Patrick Martyn, M.D.,—*Whooping-cough, its Pathology and Treatment.* London, 1869.
- Albert Moeren, M.D.,—*Ueber Sympathische Gesichtsstörungen.* Berlin, 1869.
- John Murray, M.D.,—*Report on the Treatment of Epidemic Cholera.* Calcutta, 1869.
- Frederick Smith,—*Scarlet Fever, and its Prevention.* Malvern, 1869.
- Transactions of the American Ophthalmological Society. New York, 1869.
- Transactions of the Epidemiological Society of London, Sessions 1866-67, 1867-68. London, 1869.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Recent Researches on Tuberculosis.* By J. BURDON SANDERSON, M.D., F.R.S.; Physician to the Hospital for Consumption, and Assistant Physician to the Middlesex Hospital.¹

I PROPOSE in the following pages to give an account of some of the more important results of the experiments which have been made during the last few years as to the artificial production of tubercle, to illustrate their bearing on questions of pathology, and to endeavour to bring them into relation with the teachings of clinical experience. I have first to state as clearly as I can what are the leading facts as to artificial tuberculosis, leaving out what is unimportant, taking in all that has a bearing on my subject, whether it results from my own observations or those of others.

The literature of artificial tuberculosis is very extensive; for without reckoning limited inquiries, six complete series of researches have appeared in Germany, two in England, and two in France.

Artificial tuberculosis is most easily produced in the guinea-pig, next in the rabbit; with most difficulty in the dog. The results obtained with horses and cattle are as yet doubtful.² For three reasons the guinea-pig is preferable; (1) because it is absolutely free from liability to natural tubercle; (2) because it is little liable to acute inflammation; and (3) because it can be inoculated with absolute certainty. Artificial tuberculosis may be produced either by the inoculation of infective material or traumatically. My experiments show, that of all inoculated materials none is more certain or more active than material taken (as vaccinators say) hot from the diseased glands of a living animal already infected. The dose required is almost infinitesimal. If a diseased gland is squeezed into a little distilled water in a capsule, and the resulting slightly turbid liquid injected into the pleura or peritoneum, you are certain of results. I have inoculated with success in a great number of situations; most frequently in the subcutaneous cellular tissue, but also underneath the conjunctiva, in the brain, and in the serous

¹ My own researches as to artificial tuberculosis are contained in the Appendix to the Report of the Medical Officer of the Privy Council for the present year, and in that published in 1868. The reader will also find in those papers a detailed account of other researches on the same subject.

² The recent researches of M. Chauveau, not yet published in detail, show that artificial tuberculosis can be produced with the greatest facility and certainty in bovine animals.

membranes. For the purpose of studying the process, the serous membranes are so infinitely preferable, that I will confine myself to the results so obtained.

In April 1868, Dr Wilson Fox and I published for the first time experiments showing that tuberculosis may be produced in animals traumatically. I happened to have precedence as regards the date of publication, but the experiments were made independently and at about the same time. I produced tuberculosis in the guinea-pig by the insertion of setons, Dr Fox by the insertion of various non-tuberculous products, and also by setons. This result has since been abundantly confirmed by ourselves and by others, especially by Professor Cohnheim, who produced the required injury not by setons, but by the introduction of a variety of foreign bodies, in themselves harmless, into the peritoneum. In each case a cold abscess was produced around the foreign body as the primary effect, and tuberculosis supervened.

What is the nature of the result produced, and what reason have we for identifying it with human tuberculosis? I shall consider the question at the same time with relation to the traumatic and infective form. The result of either process is to produce a definite disease—a disease which affects almost all the internal organs except the brain, and consists in the formation in them of nodules of new growth. This new growth has that peculiar structure which is common to all those diseased products which Virchow calls lymphomas, including scrofula, leucæmia, tubercle, several diseases of the lower animals, particularly the tuberculous disease of horned cattle, and farcy. Virchow calls all these lymphomas, because they all present a structure which is to be found in certain organs belonging to the lymphatic system. Virchow distinguishes lymphomas into two great classes, hyperplastic and heteroplasmic. The hyperplastic lymphoma *par excellence* is scrofula, for this consists in overgrowth (resulting in degeneration) of the lymphatic glands. The heteroplasmic lymphoma *par excellence* is tubercle, for it consists in the growth of nodules of material which have the same structure in parts of the body where no such structure exists. Leucæmia occupies an intermediate position, because in it we have hyperplasia of the spleen and lymphatic glands, heteroplasia of the liver, kidneys, and mucous membranes. I propose to use the word adenoid to characterize the tissue, for the following reasons:—There are in various parts of the body organs which, like the morbid growths in question, possess a structure exactly resembling, and, in fact, identical with, that of the follicles of the lymphatic glands. These organs are the Peyer's follicles, the *Trachomdrüsen* of the conjunctiva, and the Malpighian corpuscles of the spleen. In addition to these, there are other parts of the body in which the same tissue is met with. Thus, in the neighbourhood of the bronchial tubes in the lungs of the guinea-pig there are collections of adenoid tissue which lie between the bronchioles and their ac-

accompanying bloodvessels. In the pleura, immediately under the epithelium, there are gland-like, or, as I call them, adenoid bodies, consisting of collections of the tissue in question, surrounding tufts of capillary vessels, and covered with epithelium. In the peritoneum (omentum) there are similar bodies; in addition to which the vessels are surrounded by sheaths or cylinders of the same structure. Underneath the parietal peritoneum there are similar sheaths much less massive, but not less distinct in structure. In the choroid of the eye similar collections of adenoid tissue exist. Finally, during the last few months we have become familiar with the fact, that the medulla of bone consists largely of adenoid tissue, the relation of which to the bloodvessels is very remarkable. The arterioles terminate by losing themselves in the adenoid pulp, the veins commencing by wide sinuses which, like those of the spleen, are mere excavations of the pulp without distinct walls.

The reason why I have drawn attention to all these anatomical facts is this:—We have seen that all these structures agree in being formed of adenoid tissue; that tubercle (in the true sense), the new growth in leucæmia, the new growths in the tuberculous disease of cattle, have this in common—that they also consist of adenoid tissue; and that Virchow distinguishes tubercle from the rest mainly in that it is heteroplastic. I have now to say, that the tubercle produced artificially is in a certain sense hyperplastic—that is, it is an overgrowth, not a new growth. Thus, the parts most apt to be affected by tubercle are those in which the structure in question exists naturally. The tubercle nodules which are formed in the peritoneum and pleura are overgrowths of nodules which existed before; the masses of new growth in the lung are overgrowths of masses infinitely smaller which existed before; the nodules in the choroid are agglomerations of pre-existing elements, and so on. In order to see this process, you should introduce into the pleura an infinitesimal portion of water impregnated with diseased gland, as already described. In a fortnight or three weeks you have your results. Suppose you take two guinea-pigs, and inject into the pleura of one, leaving the other untouched: In the former the pleura is studded with miliary tubercles, small, but visible to the naked eye; in the latter may be studied the adenoid bodies I have described. They have the same structure as the tubercles, which are simply adenoid bodies enlarged.

This process of overgrowth of pre-existing adenoid tissue is not, however, all that we observe in artificial tuberculosis. I have already stated that nodules are found not only in the serous membranes, but in the solid organs. In the latter, the constitution of the nodules is somewhat more complicated. I will take two organs to illustrate this—the liver and the lungs. In the liver there are two very distinct forms, the leucæmic and the miliary serous. In the first the new growth assumes precisely the character of leucæmic enlargement. The organ is enormously enlarged in

consequence of the growth of adenoid tissue around the bile-ducts. At the same time the epithelium of the bile-ducts grows with great activity, so that you have a combination of two things—overgrowth of adenoid tissue round the ducts, of epithelium within the ducts. In the serous form, miliary nodules of adenoid tissue grow underneath the serous membrane.¹

In the lung there are also two forms. In tuberculized animals the lung becomes disseminated with minute nodules of lobular catarrhal pneumonia. Each nodule is extremely translucent. On making sections it is found that it consists of two materials entirely different from each other anatomically. On the one hand, the alveoli are choked with the ordinary roundish cells which are always found there.² The alveolar walls are thickened by the growth in them of adenoid tissue. As the disease progresses these masses of lobular pneumonia coalesce. Each mass caseates at the centre, *i.e.*, becomes opaque and soft. The disintegration goes on till a vomica is formed. It is not necessary to go further. Let me now consider what is the meaning of the process I have been describing.

What is the relation between the tuberculosis produced by inoculation and that produced traumatically? In both we have to do with infection—that is, the disease progresses, not by continuous growth, but by the distribution or dispersion of infective material from one point. This point I call the focus of infection. I assume that the communication of the disease from a part primarily affected to the rest of the body takes place in the manner indicated, *i.e.*, that it is due to the conveyance of an infective material, and therefore that we may have to do with primary and secondary lesions. Now, when you produce an injury of the external surface of such a kind as to bring about those internal changes which constitute tuberculosis, you do so by first producing local primary lesions which are of the same nature as those which result from inoculation. You produce sometimes an open sore surrounded by a base of induration; sometimes an abscess with indurated walls; sometimes no perceptible abscess, but a nodule of induration. It is therefore the induration which constitutes the primary lesion—the induration, which in both cases is the source from which the whole body is infected.

What is the nature of the infective material? On this subject various opinions are entertained by observers. Dr Waldenburg holds that the infective material consists in fine particles of the inserted substance, and that these particles being introduced into the circulation form the nuclei of miliary granulations or growths.

¹ These nodules have been mistaken by Villemain and others for sections of miliary tubercles.

² These cell-like bodies which occupy the alveolar cavities are often called epithelial. Their relation to the epithelial lining of the alveolar walls is not known.

This may be called the capillary embolism theory. Cohnheim infers from his recent experiments that the infective material is always caseous pus. He founds this inference on the observation that in his experiments the primary lesion was always a caseous abscess.

As we have no means of seizing on the infective material, and submitting it to microscopical or chemical examination, the only way in which we can arrive at a conclusion as to its nature is that of studying the course which it follows in its distribution through the body. Let us take for the purpose a case in which tuberculization is produced by injecting a trifling quantity of diluted lymph-gland into the pleura. The course followed by the infective agent in this case may be traced with some certainty. The morbid material is introduced into the serous cavity and spreads itself over its surface. It fixes itself, however (so far as can be judged by the effects), to those parts of the serous surface where there are already masses or collections of adenoid tissue. The nodules of induration are therefore the primary lesions, the base from which the infective agent must be distributed to the rest of the body. How does this distribution take place? Obviously it must be either by the veins or the lymphatics. I am of opinion that both are concerned, and for the following reasons:—

It has now been satisfactorily ascertained that the serous cavities are in fact lymphatic reservoirs. Both the pleura and peritoneum communicate freely with lymphatic vessels. This fact is proved, not merely anatomically, but also physiologically. Coloured liquids injected into the serous cavities during life enter the lymphatics. It is therefore scarcely possible for the lymphatic system not to be infected if the serous cavities are infected. In addition to this we have the conclusive fact, that the bronchial lymphatic glands are enlarged, and eventually undergo all those changes which characterize scrofula. I do not think, as some other observers do, that the lymphatic capillaries are specially the seat of nodules. I have already given another account of their anatomical relations; and I have made definite observations as to the behaviour of the lymphatic capillaries in those parts of the peritoneum where they can be best observed—particularly on the surface of the diaphragm. I have ascertained that the natural adenoid tissue which is there to be found underneath the serous membrane, although often existing in quantity, close to minute lymphatics, does not belong to them, but to the veins; and further, that the beautifully-defined miliary granulations which often cover the surface of the diaphragm are not in the course of lymphatics, as Klebs and Aufrecht maintain, but in the course of veins. In short, I hold that those observers have both mistaken veins for lymphatics,—a mistake which is exceedingly easy. I am therefore of opinion that the tuberculous virus is taken up by the lymphatics at every focus of infection, and carried thence to the lymphatic

glands; but that it is not the channel whereby it enters the circulation.

In every case the veins offer a much readier channel for the purpose than the lymphatics. Thus, if we admit that the subserous nodules stand in the same relation to the venous radicles as the adenoid masses from which they spring, it appears certain that the facilities for the penetration of molecular morbid products or even of corpuscles must be very great; and it is further clear that, if any such material does enter the venous system, nothing can hinder its general distribution, whereas what is absorbed by the lymphatics is liable to be arrested in its passage through the lymphatic glands.

The third stage of the infective process obviously consists in the general distribution of the morbid material throughout the system by the arteries. This can be best understood by again referring to what occurs in the liver. If the infection is made into the peritoneum the surface of the liver becomes infected directly. It becomes studded with miliary subserous granulations. If the injection is into the pleura it does not at first become diseased at all, but eventually adenoid deposits are found round the ducts. The difference of form of lesion corresponds to the difference of mode of infection. Infection by the arteries gives rise to disseminated or infiltrated new growth in the depth of the organ. Infection by the peritoneum causes isolated miliary granulations on the surface.

In what way do these facts as to the course followed by the infective agent aid us in arriving at a conclusion as to its nature? I hold with Waldenburg the material to be solid matter in a state of extremely fine division, but do not agree with him in separating tuberculosis from the infective processes which constitute the specific infective diseases—*e.g.*, smallpox, scarlet fever, glanders. By proving that the infective material is necessarily solid, not in solution, we establish and strengthen the analogy with other infective diseases. It appears to me certain, from the experiments of Chauveau, that the contagium of smallpox is an insoluble substance, and exists in the state of minute particles; and that the contagia of vaccine, of glanders, and of ovine smallpox are of a similar nature. All our researches therefore tend to bring tuberculosis into the category of infective diseases; but, on the other hand, they lead us to believe that the infective matter is infinitely more common, and that the conditions for its production are probably much more of frequent occurrence than those which generate the other morbid poisons.

I have now said as much as I have time to say about the results of artificial tuberculosis. I have endeavoured to show that the disease produced is an infective disease, that its spread through the body is due to the presence in the circulation of an infective material, which may, I think, be nearly allied to the infective materials of other diseases of the same class, and that its anatomical resemblance

to the so-called tuberculous diseases in man and other animals is so great that it is not possible to point out a difference.

I now proceed, by way of application, to refer to the most important of the doctrines which have been advanced of late years as to the nature of human tubercle, and to see how far the facts we have been considering bear upon them.

I need not observe that the whole of our modern notions about pulmonary tuberculosis date from Laennec. Not because he was the first that ever observed well on the subject, but because the discovery of auscultation so entirely altered the clinical aspect of the disease, that pathologists—unfortunately it must be admitted—forgot all that had preceded, or seized upon the new doctrine of tubercle as if it were definitive. There never was a more complete case of turning over a new leaf. It was not merely receiving the new, but clean forgetting the old as if it had never existed.

The new doctrine was this—That tubercle is a specific new growth, something not existing before, which grows in the affected parts; that the new growth is partly characterized by its physical properties, but mainly by the orderly succession of changes which it undergoes; that it is first gray and translucent, afterwards becomes opaque, and finally cheesy. It was Laennec who originated the distinction we now constantly hear of between gray tubercle, crude tubercle, and cheesy tubercle. These three conditions he thought so unvarying in their relation to each other that, if in any given instance the third were found, he considered that the first and second must have preceded it.

In its application to phthisis this theory is very significant. It implies that the disease consists in consolidation, followed by disintegration of the consolidated parts. In the discussion on the nature of the disease all turns on the conclusion formed as to the nature of the first consolidation. Laennec advanced for the first time the theory that the consolidation was due to the deposit in the organ of a new material, a new kind of morbid growth. This he called tuberculous material. He said it had nothing to do with inflammation either chronic or acute, nothing to do with any other sort of consolidation except itself. How did it happen that this doctrine was so generally accepted? For reasons apparently which had no immediate relation with the question at issue. It was thought that Laennec knew more about it than any one else. He had discovered auscultation and percussien; he had taught men to make out by physical signs that phthisis existed long before the signs of marasmus were to be observed. In short, the specificity of tubercle was believed in because Laennec taught it.

It is well known that Laennec's greatest opponent was Broussais. For at that time Paris was the arena of pathological disputation, just as Edinburgh was at an earlier period. Just as Laennec excluded, so Broussais included inflammation in all his pathological ideas; but he distinguished two kinds of inflammation. He distin-

guished between acute inflammation, on the one hand, and those chronic indurations which result from continuous irritation on the other; and he had a theory about them, viz., that whereas acute inflammation is a disease of the blood capillaries, irritative induration is a disease of the lymphatic capillaries. In thus theorizing, Broussais went far beyond his facts, and was speculating about things beyond his knowledge, for at that time no one had seen a lymphatic capillary. To a certain extent Broussais's idea of lymphatic inflammation was a prediction or anticipation of what we now know; but after all it was a mere imagination. He saw that chronic induration was different in nature from inflammation, and therefore supposed it had a different seat. Nothing could be more natural or easy than to fix it in the lymphatic system.

Soon it appeared that Laennec's theory of specificity required some kind of support from facts. If tuberculous material were a species of morbid growth, it must have characters by which it could be recognised. These characters were sought in two directions, chemistry and anatomy. Of the efforts made by chemists some twenty years ago to characterize tubercle little need be said, for they came to nothing. The apparent results arrived at by anatomical investigation for the same purpose were much more considerable. When pathologists became possessed of the microscope one of the first uses to which they put it was to try and make out the characteristics of diseased products—so-called exudations. In Vogel's *Pathological Anatomy*, Gluge's *Microscopical Researches in Pathology*, and, above all, in Lebert's *Treatise on Tubercle and Scrofula*, Laennec's doctrine was, as it were, done into microscopical language. According to Lebert, tubercle consists of minute bodies of a particular size and form, from $\frac{1}{1000}$ to $\frac{1}{500}$ inch in diameter. He made drawings of these corpuscles, and taught that by means of them the microscopist could distinguish tubercle from all other kinds of morbid product.

There can be no doubt that this great mistake of Lebert's exercised a considerable influence on pathological ideas about tubercle, and this for several reasons; most of all, because it brought the specificity doctrine of Laennec into harmony with what was then the new and prevailing pathology. Men had already made up their minds that tubercle was a specific something. Lebert gave that something an anatomical form. And it happened that the same process was going on in other departments of pathology. At the same time that the microscopists described the tubercle corpuscle they described the cancer cell and the typhoid cell—both of which were thought to be as characteristic forms of cancer and typhoid fever respectively as certain crystalline forms are characteristic of bodies of definite chemical composition.

It would probably be wrong to say that these early efforts of microscopical anatomy to elucidate pathogeny were mischievous, but they were certainly retrograde, for they were, after all, mere efforts

to inspire with a new and fictitious life old and obsolete, and certainly mistaken, imaginations, by attaching them to actual anatomical forms, for Lebert and the rest saw all that they described, and many of us had them shown to us when we were students. The success with which this was done undoubtedly gave to the doctrine of specificity a much firmer hold on the younger men of the present generation than it would otherwise have had, and even now makes it much more difficult to combat it than if we had passed at once from the antagonistic teaching of Broussais and Laennec to that of Virchow, and had been able to jump over the confusion which the microscope at first introduced into pathological ideas.

Anatomically the cardinal fact is this: All cases of phthisis pulmonalis have this in common, that they commence with lobular induration, and end in disintegration and cavern-formation. In no generally understood sense can a case of acute miliary tuberculosis be said to be a case of phthisis. This broad definition of phthisis brings us back once more to Laennec. It was he indeed who first recognised the fixed relation between induration and disintegration as antecedent and consequent; but he unfortunately extended the notion from the tissue to his "tuberculous material." The conclusion to which we have now arrived by anatomical investigation is this: There is no difference structurally between the induration of phthisis and the induration of chronic pneumonia. There are no anatomical elements in the hard parts of a phthisical lung which are not to be found in the hard parts of chronically irritated tissue in any other organ. Finally, there are no elements in the induration of phthisis which are not to be found in chronic bronchitis. It is even possible that there are no anatomical elements in the induration of phthisis which are not to be found in the healthy lung. We cannot say this positively as regards man, but it is certainly so as regards the guinea-pig.

If we examine the unsoftened part of an ordinary phthisical lung, what do we find? Precisely the same structural changes which I have described in the guinea-pig—*i.e.*, changes of two distinct kinds; those of one kind having their seat in the alveolar septa, those of the other in the alveolar cavities. The change in the alveolar septa consists in the development of the tissue which I call adenoid—lymphoid corpuscles embedded in stroma. The change in the cavities consists in accumulation of cellular elements. A diagram of the transparent nodules in the guinea-pig's lung represents as truly the early stage of tuberculous consolidation in man. In the structure itself there is nothing either specific or malignant.

In studying the development of consumption in man, it becomes more and more apparent that three distinct agencies are at work. Of these agencies one is so ill defined that we can only designate it a tendency. To some minds, I am aware, to talk of a constitutional tendency seems meaningless. I am not going to assert the possibil-

ity of disease existing absolutely independently of material change, but I do assert strenuously that disease may exist without its being possible to detect any anatomical or chemical basis for it. As regards pulmonary consumption, the fact of its so frequently attacking in succession several members of a large family shortly after adult life affords to me a proof beyond the possibility of dispute, that something phthisical exists in each such member. In this sense I believe in the existence of latent phthisis, but in no other. No proof has yet been given that, in individuals in whom this tendency exists, the solids or fluids are differently constituted from others. The latent condition can only be described as a tendency or liability, the nature of which is open to speculation.

The second agency is irritation. The organs which are subject to injury are, above all, the mucous cavities which communicate with the external air. A common bronchial catarrh, not differing in any respect except its result from other bronchial catarrhs which terminate favourably, gradually assumes the characters of consumption. In the cases in which tuberculous processes originate from catarrhal inflammations of the genito-urinary organs, the same thing happens. Gonorrhœa leads to prostatitis, prostatitis to serofulous catarrh of the bladder, which creeps upwards along one or both ureters, and produces induration and caseation of one kidney—that condition which is called renal phthisis. In both of these instances an indurative process, which ultimately becomes disintegrative—*i.e.*, a tuberculosis—begins from a simple catarrh of irritative origin.

The third agency is that which I have designated throughout as *infection*. The word designates the fact, that whenever a chronic induration due to overcrowded corpusculature exists in any organ, it is apt to give rise to similar processes elsewhere.

Although this is the point which artificial tuberculosis serves to illustrate, the notion does not owe its origin to the results of experiment. It was distinctly formalized at least twelve years ago by Buhl almost in the terms in which we are now disposed to accept it. Buhl, however, limited its application to cases in which there are miliary tubercles. He showed, in the first place, that in persons who die of that variety of fever which is characterized by the general dissemination throughout the body of miliary granulations (acute miliary tuberculosis), masses of induration, which have remained in the body long enough to become caseous, are in the great majority of cases to be found; and *secondly*, that in those cases in which miliary tubercles are sown over a much more limited region, as, *e.g.*, when they are confined to a single organ, they also spring from old lesions.

Both of these doctrines of Buhl's are, I think, well established, and will be accepted by most pathologists, provided they are not overstated.

They do not, however, include the ordinary case of phthisis, for the instances of phthisis in which typical miliary tubercles are to be

found are comparatively very few in number. The position I wish to advance is that *infection* has to do with the development of ordinary consumption—in short, that Buhl's doctrine applies in a certain sense to the so-called infiltrated forms of induration as well as to the miliary.

The results of experiment, as I have said, help us to understand this. If inoculation had produced only miliary lesions, we might have been disposed to *limit* infection to such lesions. The facts are otherwise. By inoculation you get miliary granulations in the serous membranes and in the choroid, but interstitial or diffused lesions in the liver, lungs, and other massive organs—so that here interstitial induration is part of an unquestionably infective process.

By regarding the development of so-called infiltrated gray tubercle as infective, one gets rid of some difficulties. We are no longer compelled to accept the teaching of some of the French followers of Virchow, who restrict the term tuberculosis to what is called "granulie," or to draw too marked a line of distinction between cases of phthisis in which miliary granulations are present and those in which none can be found—or, with Niemeyer, to refuse to apply the term tuberculosis to any excepting certain rare forms of consumption.

As to the word tuberculosis, obviously it would be a great advantage pathologically to get rid of it, as having no anatomical or chemical basis. At the same time, it must be admitted that it has a practical value, as implying a particular kind of malignancy. This malignancy stands in close relation to the infection of which I have been speaking, and, in particular, to that crowding together of new growth, whether catarrhal or adenoid, which is the essential character of an infective focus.

In other words, if *tuberculous* as applied to any organic disease means anything, it means destructive induration—*i.e.*, that the organ is first hardened, and then becomes softened and indurated. This, for example, is the only respect in which tuberculous disease of the testicle, of the kidney, of the bone, and of the lungs all agree.

Here I must leave off abruptly. In conclusion, let me observe, that in my judgment the question of specificity is not one of merely theoretical interest. The doctrine has, I believe, exercised an unfavourable influence both on the treatment of phthisis, and on the management of phthisical patients. It has led men to forget that consumption is influenced by the ordinary causes of inflammation, not only in its origin, but in each step of its progress; and that one most important aim in treatment must be to counteract this influence—not, of course, by returning to the antiphlogistic remedies of the past, nor indeed by any therapeutical interference whatsoever, but by bestowing on the treatment of acute catarrhal affections, whether of the pulmonary, intestinal, or genito-urinary mucous membranes, a great deal more care than has hitherto been

considered necessary; and, on the other hand, by affording to the poor when actually suffering from acute disease of the lungs the means of placing themselves under protection without delay from the injurious action of cold and occupation. I hold that the principle on which hospital relief should be administered for the benefit of those who are either liable to or actually affected with phthisis is that of *prevention*, and that if hospitals for the diseases of the chest are to be of any real value, the regulations for the admission of patients ought to be so framed, that all persons affected with acute disease, whether secondary or primary, may claim immediate admission into hospital on the mere ground of urgent need, independently of the accident of a governor's recommendation.

ARTICLE II.—*A Case of Heart Disease (Cardiac Thrombosis).* By JOHN G. M'KENDRICK, M.D., Belford Hospital, Fort-William.

THE older pathological anatomists were quite familiar with pendulous tumours or excrescences occurring in the cavities of the heart, to which they gave the name of polypi; and when they sometimes found a cavity in the centre of these tumours filled with a puriform fluid, they thought suppuration had taken place, and they called them purulent cysts. It is now well known that these so-called tumours are clots of fibrine deposited from the blood in certain conditions of that vital fluid in which there is supposed to be an excess of fibrine. The special conditions which determine a coagulation of fibrine in this manner are unknown; but authorities believe that the presence of any roughness on any part of the lining of the cavities, more especially of that of the valves (the result probably of a previous endocarditis), is peculiarly favourable to this dangerous occurrence, by affording a foundation upon which minute particles of fibrine are from time to time deposited, thus adding to the size of the clot. But there is another way in which these clots may be formed. The fibrine coagulates, swims freely in the cavity for a time, daily growing in size; but by-and-by the clot adheres to the wall of the cavity, and, if time is afforded, even a vascular union between the clot and the lining membrane of the wall may be established. If the clot—formed in either way—happens to be attached to a part of the wall of the cavity where it is, so to speak, out of the full force of the current of blood, the circulation is not much disturbed, and the patient may survive for some time. Sooner or later, however, any of the following changes may take place:—

1st, The clot may become partially organized, and may derive a supply of blood through minute vessels running into its root from the proper lining membrane of the cavity.

2d, The fibrine forming the core of the clot, having a feeble capacity for becoming organized, and rather a tendency to disin-

tegration, may break down and form a puriform fluid in which there are numerous bodies like pus-corpuscles, but which are no doubt blood-corpuscles, entangled in the meshes of the fibrine when first deposited, and changed in appearance.

3d, Detached portions of the clot may be hurried into the circulation and cause embolism with all its dire results; and,

4th. The clot may block up either of the auriculo-ventricular apertures, or the pulmonary artery or the aorta, and kill the patient by obstructing the circulation.

Without any more general observations, I shall briefly relate a case of this dangerous disease which has lately been under my care:—

G. H., a stout-looking young woman, at nineteen, was admitted into the Belford Hospital on 23d February 1869.

History.—Had always been healthy till the beginning of January last, when she caught a cold. Was married on 21st January last. Menstruated ten days before marriage.

Condition.—Had a very depressed and anxious expression of countenance. Low-spirited. Complained only of a slight cough without expectoration, and a frontal headache, particularly towards evening. No pain anywhere else. Appetite good. Tongue little foul. Bowels quite regular. Urine copious, pale, non-albuminous. Pulse normal. A physical examination of the chest did not yield a single positive sign of disease, except that the heart sounds were not so clear and precise as I could have wished. The most remarkable phenomenon of the case was shown when the patient fell asleep. The moment she fell asleep she began to moan in a most distressing manner. It was a loud, long-drawn, piteous wail, more like those horrible sounds emitted by a person dying of acute cerebral disease than anything I ever heard. When awakened she would converse without apparent effort, and declare she was not aware she had been moaning, and that she felt as usual; but immediately on falling asleep again, the dreary moan was renewed, and uttered incessantly for hours. Nothing mitigated this distressing symptom, except propping her head and shoulders high with pillows. The secret of the case was hidden from me. I could not account for the anomalous symptoms; but as I knew certain private affairs were troubling her mind, I thought she was labouring under great depression of spirits, and that she probably was pregnant. She told me she had had frightful dreams since the beginning of her illness; and as she appeared to sleep soundly, and was not conscious of pain, I thought the dreams might explain the moaning, which was the one and only distinct feature in her case. But matters soon assumed a more serious aspect. On the morning of the 1st of March, I was summoned to her bedside in great haste. I found her at the point of death, dying apparently of asphyxia from congestion of the lungs. She seemed to be in her usual state till breakfast time, when the nurse observed her face was very much flushed, and her breathing difficult. The patient could not

describe her sensations. She said she was fearfully anxious—that was all. She had no pain. Stimulants were given, and sinapisms were applied; but life quickly ebbed, and she breathed her last about 10 A.M.

Post-mortem Examination twenty-five hours after Death.—Lungs much congested. A few ounces of serum in the left pleura. A little serum in the pericardium; but no signs of pericarditis. Heart normal in size and weight. In the right auricle, there was a white irregularly pear-shaped clot, about the size of a large walnut, attached by its narrow end to the muscoli pectinati in the apex of the auricular appendage. This clot had a firm consistence, had a slightly flocculent appearance on the surface, and had a small cavity in the centre, communicating with the exterior by a small rent in its substance. The foramen ovale was not completely closed, and an ordinary-sized probe could be passed through the opening into the left auricle. There was no clot in the right ventricle; but the anterior flap of the tricuspid valve was thicker than usual. On opening the left auricle, a clot, firm and white, was seen corking up the mitral orifice. This clot was distinctly seen on opening the left ventricle, which was a little hypertrophied. It sprang from among the intersections of the columnæ carnae at the apex of the cavity; and about three-quarters of an inch from its origin, it divided into two branches, one of which plugged up the mitral orifice as already described, and the other extended into the aorta. With the exception of these clots, and the thickening of the anterior flap of the tricuspid valve, the muscular and valvular structure of the heart was perfectly healthy. No further examination was made.

Microscopical Examination of the Clots and their Attachments.—On examining very thin sections of the clot in the right auricle, made by Valentine's knife, under a magnifying power of 300 diameters, it had a fibrillated structure, and in the meshes of the structure there were numerous corpuscular bodies, with corrugated edges, which were made more distinct by making the fibrils transparent by the addition of a drop of weak acetic acid. The root of the clot divided into several narrow bands which dipped into the spaces between the muscoli pectinati. On carefully dissecting off a portion of the endocardium, with one of the band-like roots attached, and placing it under the microscope, the epithelial layer of the endocardium, and the layer of elastic tissue beneath it, seemed to be reflected upon the root of the clot, and to run along it for a few lines. Several minute bloodvessels entered the clot, but they were limited to its root, and did not extend, so far as I could observe, into the body of the clot. The structure of the clot in the left ventricle was the same as that of the clot in the right auricle.

Concluding Remark.—I have no doubt these clots existed in the heart for a considerable time,—at all events, during all the time the patient was in the hospital; but there were no positive symptoms

to help me to diagnose their presence. Dr Stokes, in his work on Diseases of the Heart, p. 124, remarks upon the subject of the diagnosis of clots in the heart as follows:—"In one of Mr O'Ferral's cases, there appeared no physical sign of disease of the heart of any special kind; and in another, where organic valvular disease affecting the valves existed, the signs presented no unusual character. It is greatly to be doubted whether we have any means of detecting an ordinary coagulum of blood in the heart, but we are not to despair of yet discovering some signs indicative of this accident." But the end approached. The clot in the left ventricle at length got impacted into the mitral orifice. Rapid congestion of the lungs was the result, and life was soon extinguished. The case affords several interesting topics for reflection; and, perhaps, the facts, if borne in mind, may help in the diagnosis of similar cases of obscure heart affection.

ARTICLE III.—*The Mortality of Childbed.* By J. MATTHEWS DUNCAN, M.D.

THERE are some terms frequently used in this paper which require some definition preliminarily. Childbirth implies parturition. The accidents of childbirth, or deaths from childbirth, are accidents or deaths arising from parturition. From these accidents and deaths, those of puerperal fever or metria are excluded. Childbed is a more general expression, implying the special conditions in a period of time, generally understood as of four weeks, extending from parturition, which it also includes, onwards for the puerperal or childbed month of lying-in. Childbed deaths include those from childbirth and metria. Mortality or deaths *of* childbed are those belonging to that state, *i.e.*, childbirth and metria deaths. Mortality or deaths *in*, not *of*, childbed include all deaths in the four weeks of childbed. Deaths *in*, not *of*, childbed are all deaths, deaths from whatever cause, occurring within the four childbed weeks, including the period of labour.

The mortality of childbed is a quantity not only not ascertained, but, so far as I can see, not at present ascertainable in a perfectly or even a nearly satisfactory manner. Yet it appears to me very desirable to make a definite, single-eyed, attempt to approach as nearly as possible to a correct statement of this quantity. The result, if even moderately well established, cannot fail to be of immense value in contributing to the settlement of disputes as to the injurious or beneficent character of practices or of hospitals. I say only *contribute*, for much more is required for the purpose than a standard to measure by. But without some approach to a fixed standard, no progress can be made in discussions such as those alluded to.

In the recent debate on the value of Maternity Hospitals in the Dublin Obstetrical Society, more than one speaker set himself to answer the question proposed in this paper. I shall use much valuable information derived from that source;¹ but I think I have added considerably to it, and I have an advantage over the speakers there, in this respect, that I am considering at present only this single point, "What is the mortality of childbed?" separate from the other questions raised in the famous debate.

Statistics are indispensable, and this is at present a very unfortunate circumstance; for, in addition to the well-known difficulties in using aright the coldest and simplest statistics, we are in the midst of much passionate struggling on the arena into which statistics are to be brought, and the heat of defence and attack is alone sufficient to induce much falling from strict logical sequence without the addition of the temptation, in the same bad direction, offered by statistics. While I cannot claim for myself exemption from these dangers, I shall at least take the credit of trying to avoid them.

In the present question there are two great statistical difficulties. The first is, to decide upon the facts or circumstances to be compared. The second is, to get the facts or circumstances, after settling the first difficulty, as to what facts are to be got or worth getting. Unless a thoroughly good understanding is arrived at on these points, the argument cannot advance a step; the quantity desired, the mortality of childbed, must remain unknown and not even approximately fixed. We shall now inquire how they can be best settled.

First, What facts or circumstances settling or contributing to settle the quantity, the mortality of childbed, can be agreed upon as being worth obtaining and studying? Now, the Registrar-General gives us deaths of childbed, and he places them in two categories; first, childbirth deaths or deaths of childbed not arising from what is called metria; second, deaths from puerperal fever or metria. In the first category are placed deaths from rupture of the uterus, from puerperal eclampsia, from phlegmasia dolens, from puerperal mania, from placenta prævia, etc. In the second are placed deaths from metria or puerperal fever. This mode of arranging the deaths of childbed is very generally adopted, and at present I do not wish to make any theoretical objection to it; but a single statement is sufficient to show that the use of these two categories does not ensure the production of facts which the profession can agree upon and unite to accept: for the profession are not agreed upon the questions, What are childbirth deaths? and, What are metria deaths? Not only may obstetricians, well informed and strictly honest, differ as to which is the right category for a particular case, but there is also, and this is the great point, room for their differing as to a particular case being a childbed death (*i.e.*, from childbirth or metria) or not. One set of practitioners may deliberately and honestly say

¹ Dublin Quarterly Med. Journal, August 1869.

of a case, This is not a childbed death (*i.e.*, from childbirth or metria), while another set of practitioners may equally deliberately and honestly say of the same case, This is a childbed death (*i.e.*, from childbirth or metria), and there is no means of always settling the question between them either scientifically or by authority. What then is to be done? The fact is, that all attempts at ascertaining scientifically or exactly the desiderated quantity, the mortality of childbed, must be given up. There is no method of even getting facts upon the nature of which the profession are agreed. I could prove this by tedious references to writings of obstetricians of high authority and by other arguments, but I believe it is unnecessary to do so.

There are many valuable results obtainable, which, though not exactly what is desired, are very nearly so, and extremely useful, because the best obtainable with a view to guidance in great practical questions, which demand an immediate answer of some kind—the best that can be got. Now, in the present case we can get the deaths *in* childbed indisputably, though not those *of* childbed; and there will be, in my opinion, no very great difference between the two quantities. The quantity wanted is the mortality of childbed (*i.e.*, of childbirth and metria); it is unattainable. The quantity attainable is the mortality in childbed (*i.e.*, of childbirth and metria and every other influence producing a fatal result in the interval between the commencement of parturition and the end of the lying-in or childbed, that is, a period of four or six weeks or any other time that may be agreed upon). It must be evident to all that this result can be got, namely, the number of women dying in the interval between the beginning of labour and, say, four weeks thereafter. As matters stand there is a difficulty, for we have no security as to the length of time included in the term lying-in or childbed. A month is the term generally adopted, but it is not settled whether this means twenty-eight, thirty, or thirty-one days. While we recognise this difficulty, yet we cannot doubt that this quantity is the best that can be fixed upon for observation, just because there can be no cavil about what it is, namely, the mortality in childbed from whatever cause, not the mortality of childbed (*i.e.*, childbirth and metria).¹

Having thus settled what can be agreed upon as obtainable with a view to this question, let us, *secondly*, inquire what sources we can look to for the desiderated data. Derived from any source they will be imperfect in various ways. We must choose the best, the most trustworthy.

There can be no doubt that hospitals, with well-kept records, offer us data far more trustworthy than any other; and I believe this circumstance, while it ought to excite our admiration of them, has, on the contrary, been the prolific cause of much injurious slander.

¹ On this subject see the *Lancet* for 1859, vol. ii. p. 213.

Whose character can endure or survive the divulging of the truth about it? One of the great difficulties in adopting hospital statistics arises from the early dismissal of the patients generally, the dismissal of some of the sick with a view to admission to other hospitals, and uncertainty thus introduced as to the number dying within a period longer than that during which all are indiscriminately retained in the institution. Like difficulties damage all other sources of data, and this similarity abates much of the consequent evil. The security of hospital statistics arises from their being compiled at the time of the facts emerging, from their being recorded by uninterested parties or without a view to any discussion, and from their being of undoubted truthfulness.

After hospitals we turn, secondly, to the reports of the various Registrars-General. These have a certain and a very high value, arising chiefly from the largeness of the figures. This largeness, while it covers many errors, does not cover others. We have already said that we have no security that the deaths included under the designations "childbirth" and "metria" include all the deaths of either category; nor have we any security that both taken together include all deaths of childbed. They are intended to include all deaths *of* childbed, but give us no clue to the number of deaths *in* childbed, the quantity we hope to find out, or approximate to. Probably few omissions from these categories take place from a desire of the recording practitioner to conceal or delude; but no one knows how many may be omitted because the recording practitioner does not deem it right to record his case as one justly belonging to either category, or *vice versa*; and the practitioner cannot be found fault with, for he has no unexceptionable rule of guidance.

To show what sources of error in the registrars' reports are hidden from observation, I shall quote from Dr Barnes a passage bringing one to light from a single locality: "It is stated," says he, "in the Registrar-General's Report for 1856, that the mortality in childbirth in England and Wales in 1847 was 1 in 167, and that it had fallen to 1 in 227 in 1856. Now, having applied to Dr Elkington for the puerperal statistics of Birmingham, I learn that the registrar of that town says, that 'no one ever specifies the deaths in childbed or from puerperal fever!!!'"¹

Trusting too implicitly to tables of mortality and registrars' reports, a student might be led to adopt such an absurd notion as that the mortality of childbed had been reduced from 1 in 167 in 1847 to 1 in 227 in 1856 in England and Wales. Like unfounded and improbable views as to the progress of midwifery have been so often repeated as to appear now to be generally believed. The paradox referred to, like many others, is based on statistics, and I shall not quote them, nor stop to show their worthlessness, for it must be apparent to all on a very little reflection. It is, on such deceitful grounds, asserted that between 1660 and 1820 the mortality of

¹ Dublin Quarterly Journal of Medical Science, vol. xxviii., 1859, p. 103.

childbed in London fell from 1 in 44 to 1 in 107!!!¹ In 1869, with our great registering machinery all at work, we cannot find out what is the mortality of childbed in London.² If we could, all the labour of obstetricians on the subject now under discussion might be spared. For my part, I think obstetrical common sense will be very contented if the true childbed mortality of modern London is at all less than in the London of 1660. It is very doubtful whether it is even now as low as 1 in 107.

Dr M'Clintock³ has, in his speech before the Dublin obstetricians, entered upon this difficulty of getting the desired quantity, the deaths in childbed, from the reports of the Registrar-General; and has with care estimated the amount of difference between the combined childbirth and metria deaths, or deaths *of* childbed and the deaths *in* childbed. I shall avail myself, in a subsequent part of this paper, of Dr M'Clintock's method of estimating the deaths in childbed from the data of the Registrar-General. The intelligent reader must consider the plan, and estimate for himself the value of the results.

I shall also give an account of my own researches corroborating Dr M'Clintock's views.

The third source of data is a private search of the public registers, and the discovery, by this means, of all the women dying within a certain time, say four weeks, after childbirth. No doubt, in the statistics thus framed, there may be errors, but they will certainly all be errors of omission of deaths, from want of success in tracing them. The errors will all tend to make the mortality too small.

The fourth source is the reports of out-of-door or home practice of dispensaries or hospitals. To them I attach no value whatever. I am well acquainted with the management of these institutions, and I know that the best of them present no data that I can dare to use in an inquiry like the present. The mortality which they record is often incredibly small. There is no security whatever that the deaths are recorded, whatever may be their cause. There is no security that theoretical views as to the nature of the cause of death may not completely destroy the value of the records. I could, from extensive experience of my own in dispensary work, adduce data which would indicate a figure of mortality that would be very delighting, if I could only believe it. Le Fort, in his well-known work, has fallen into this,

¹ Simpson's *Obstetric Works*, vol. ii. p. 545. Merriman, who publishes the statistics referred to, points out their untrustworthiness. The births are got, says Merriman, by counting the christenings and the dead-born. The diminishing percentage of mortality is naturally accounted for by an increase of the number of children brought to the parish churches and registered, instead of being unchristened, or christened by dissenting ministers and not registered. The real mortality is not even tolerably well known for a single year from 1660 to 1820.

² See Barnes, *Dublin Quarterly Journal of Medical Science*, vol. xxviii., 1859, p. 100.

³ *Dublin Quarterly Med. Journal*, August 1869, p. 267.

which I must call, gross error, taking the data of the home practice of charitable institutions as reliable and fit for comparison with the data derived from hospital records. Doing so, he has, of course, arrived at extraordinary results. But they are of no value whatever. Le Fort¹ says the mortality in hospitals or maternities is 1 in 29. What does this mean? It is, that, taking the data of all maternity hospitals together, he finds that 1 of every 29 delivered has died. I do not doubt it. But what is the value of this result, with a view to the question now before us, and I may add also (among others) before Le Fort? In my opinion it is of no value whatever. If the maternity department of the Hôpital de la Charité is so badly managed as to have a mortality of 1 in 7, what does that show with a view to the question of the mortality of childbed generally, or in hospitals as compared with that in homes? In my opinion it shows absolutely nothing with this view. It should, for mine and for Le Fort's purposes, be simply thrown aside out of view. I daresay an hospital could be so constructed and managed as to kill all its inmates. What of that, in the questions before Le Fort and myself? Will the addition of such data as are furnished by La Charité to such data as are got from all other hospitals, bad and good, such as that of Troyes (1 in 230), lead to any desirable result? In my opinion, to no result but confusion and darkness. Such statements as that of Le Fort, regarding the mortality in hospitals, only show how disgracefully mismanaged many hospitals are, how much need there is of the exertions of the philanthropist. Superabundant evidence can be adduced to show that it is easy to have far better results in maternity hospitals than 1 in 29; and it is well known that the best maternities are susceptible of vast improvements. Le Fort's labours show how bad they may be, and little more. They do not bring out what he and I want.

Having made out the mortality of all hospitals to be, in fact, 1 in 29, Le Fort proceeds to investigate the mortality in home or dispensary practice, and he pursues, with this, the same method. But there are great differences in the two sets of data. In the case of hospitals, it is probable that the data are nearly what they pretend to be, nearly true. But in the case of the data of home practice, there is, in my opinion, not the least probability that they are what they pretend to be, nearly true. The method of collecting the data of home practice renders their data valueless. They are not got, as the data of hospital practice are got.² But further, the data of M. Le Fort are, in my opinion, themselves mutually destructive. We know that the mortality of different hospitals is extremely different. A bad one may have a mortality of 1 in 7; a good one, a mortality of 1 in 100. But we have no reason to

¹ Des Maternités, Paris, 1866, p. 31.

² On this subject, see some remarks by Dr Churchill, Dublin Quarterly Journal of Medical Science, Aug. 1869, p. 249. See also remarks by Dr Kidd, *ibid.* p. 242; also by Dr Denham, p. 273.

believe that such an extreme difference occurs in mortalities of home practice. Le Fort cites home practice (Stettin) having no mortality at all! Is this a valuable and instructive result? He cites home practice having a mortality of 1 in 595. Is this a valuable and instructive result? Is any one so foolish as to believe it? Will the jumbling of such figures together produce a result (1 in 212¹) of any value? In my opinion, it will produce only confusion of mind. Errors heaped on errors produce only a more egregious error.

In the case of hospitals, we may get near the truth by studying one that is large enough and long enough established, and that has laws and conditions that are well known. In the case of the home practice of maternities, I know of nothing reliable as to mortality.

Lastly, there is another source of data, namely, private practice. But I regard it as a very questionable source. The reception of evidence derived from it is encumbered with difficulties. And there are some conditions of such data which I regard as to be always required before they are received as quite satisfactory. The first is, that the items or facts be written down at the time of their occurrence. The memory is a frail and treacherous source of statistics. The second is, that the data be not asked for by a second party known to have any object in view in their use; for such asking will inevitably lead, through the amiable qualities of the petitioned parties, to the production of data favourable to the petitioner's views, and the non-production of unfavourable data. In depreciation of the value of data derived from private practice, it is to be remembered that medical men are mortal, and have an indisputable tendency, and an inalienable right, to say nothing of what looks like bad success. Suspicion naturally attaches to data remarkable for apparent success. This does not arise from any doubt as to veracity, but from the probability that practice, having apparently remarkable success, is published on that account. If the data of private practice could be got, they would be the best. But, as yet, no satisfactory data of this kind are procurable on a large scale.

We now proceed to the results afforded by the various sources above enumerated and considered.

The important result, let me repeat, which is sought, is the mortality, not of childbed (*i.e.*, childbirth and metria), but in childbed (*i.e.*, from all causes resulting in death within the period called that of childbed).

¹ Des Maternités, p. 33. I am astonished to find Depaul quoting Berard, approvingly, as the reporter of 1258 deliveries without a single death following, and this among the poorest of Paris. This fault is probably the result of mere thoughtlessness. If the statement of Berard is true, it surpasses anything known in any kind of practice; and the enemies of hospitals who adduce it are logically bound to commend, as favourable to recovery after delivery, the attendance of a student, and the immersion in all the loathsome peculiarities of the most wretched abodes of Paris. See *Fèvre Puerpérale*, Paris, 1858, p. 371.

I.—HOSPITALS.

Some hospitals show an appalling, and I may add, a disgraceful mortality. I could adduce a mortality of 1 in 3 in a certain period of the history of a great hospital.¹ From this climax, I could rise through successive stages of badness to a mortality that, so far as I can see, is nearly the present ordinary mortality in childbed. Let us take a well-known and well-managed hospital, and see what mortality it presents. It would be misleading to take all hospitals, for the bad would destroy the evidence of the comparatively good, and the most are bad, many very bad. In order to get at the mortality in childbed, in such a rough practical way as we are now pursuing, it appears to me only to be necessary to take an hospital large enough and long enough established to give its statistical figures security against accidental interferences. I shall take the great Dublin Hospital.

During the seven years of Collins, 16,414 women were delivered, and 164 died; or in the proportion of 1 in 100.

During the three years of McClintock and Hardy, 6634 women were delivered, and 65 died; or 1 in 102.

During the seven years of Sinclair and Johnston, 13,748 were delivered, and 163 died; or 1 in 84.

II.—REPORTS OF REGISTRARS-GENERAL.

These are a great quarry for statistical data. They give the deaths of childbed. But it is only by some ingenuity that the deaths in childbed can be even approximately reached through them.

According to Faye and Schönberg, the mortality of childbed in Norway is 1 in 135.²

The mortality of childbed in Paris was 1 in 169 in 1861; 1 in 160 in 1862.³

The mortality of childbed in St Petersburg is given from data supplied by Hugenberger as 1 in 149.⁴

The mortality of childbed in Dublin is given by Dr Evory Kennedy as 1 in 114.⁵

The mortality of childbed in England and Wales is given by Farr as 1 in 189.⁶

The mortality in Edinburgh for the six years, 1860 to 1865, is 1 in 162.

¹ De la Fièvre Puerpérale, etc. Communications à l'Académie Impériale de Médecine. Paris, 1858, p. 27.

² See Dublin Quarterly Journal of Medical Science, August 1869, p. 270.

³ Le Fort, Des Maternités, p. 33.

⁴ Ibid.

⁵ Dublin Quarterly Journal of Medical Science, vol. xlvii., 1869, p. 289.

⁶ Seventeenth Annual Report of the Registrar-General, etc., England, 1856, p. 73.

The mortality of childbed in Prussia is said by Hoffman, calculating from 7,654,021 deliveries, to be 1 in 108.¹

I need not give more of these statements. They show what deaths are returned to the public registers as childbed deaths. They give us the registrars' statements of the deaths of childbed. We have already given reasons for distrusting these statements, and we have also shown why the quantity sought should be the deaths in childbed, not of childbed.

Dr McClintock has taken pains to find out how far the deaths in childbed exceed the deaths of childbed. He finds this quantity to be equal to at least one-third of the deaths of childbed; in other words, deaths in childbed, and not given as being of childbed, are, at least, one-fourth of the deaths in childbed. In his own words, "One-fourth is not at all too much to allow for the deaths omitted in the registration returns of deaths in childbed." In another place he says, "The deaths occurring in childbed from non-puerperal disease form considerably over one-fourth of all the fatalities."²

Correcting by this plan the data of childbed mortality just given, we have—

The mortality in childbed in Norway, 1 in 101.

"	"	Paris in 1862, 1 in 120.
"	"	St Petersburg, 1 in 112.
"	"	Dublin, 1 in 86.
"	"	England and Wales, 1 in 142.
"	"	Edinburgh, 1 in 122.
"	"	Prussia, 1 in 81.

I cannot pretend to say what value I attach to these calculations. There is certainly a great want of precision about them. But that, for our present purpose, the registrars' reports require much correction, I am quite certain; and I shall here give an illustration of their faultiness. The Scottish Registrar's Report for 1855 gives a total of 118 deaths of childbed in Edinburgh and Glasgow. A private search made for me by experienced census clerks discovered among the married women alone 153 deaths within six weeks after delivery in 1855.

III.—PRIVATE SEARCH OF THE PUBLIC RECORDS.

The only private searches of which I know are those by Tarnier and myself.

Tarnier examined the registers of the poor twelfth arrondissement of Paris, and found the mortality in childbed to be 1 in 322.³ I have already laid down enough of well-considered figures to render

¹ Fifth Report of the Registrar-General for England, 1843, p. 396.

² Dublin Quarterly Journal of Medical Science, August 1869, p. 267. I adopt McClintock's method without strictly inquiring into the justice of his plan of handling the figures.

³ Fièvre Puerpérale, etc., par le Dr S. Tarnier, Paris, 1858, p. 75.

this statement of the mortality in childbed highly improbable. No such smallness of mortality is pretended in any place well known; and Dubois, after pointing out the special difficulties of the search made by Tarnier, does not hesitate to throw discredit on it, and adds that, among the comfortable and well-to-do classes, private practice yields nothing like such a happily small mortality as Tarnier represents in the poverty of Paris.¹ The same statistic of M. Tarnier is unfavourably commented on by Danyau.² He had the mortality of the same district investigated, and found in it a mortality of 1 in 60 from puerperal fever alone!

I had a careful search made in the Scottish registers for deaths in Edinburgh and Glasgow in the six weeks following the deliveries of the married women there, and I found 153 deaths in 16,393 deliveries, or 1 in 107. It may be supposed that the addition of a fortnight to the usual puerperal four weeks may account for much of this mortality. But this is not the case. The omission of the fortnight, or the confining of the search for deaths to a period of four weeks after delivery, would have made very little difference in the result, for the fortnightly percentage of deaths among women of child-bearing age, and apart from the immediate influence of child-bearing, must be very small.

IV.—PRIVATE PRACTICE.

In the years of my practice, of which I have preserved records, I find 8 deaths in 736 cases, or 1 in 92. One of the fatal cases was not attended by me during labour, and may be omitted from the statistic. The mortality will then be 1 in 105. This is the mortality from all causes.

In a report of two years of his practice, Sir James Simpson³ says he lost 4 cases in, at most, 180 deliveries; a mortality of 1 in 45. It may be supposed that this is the total mortality, but it is not expressly stated whether it is so or not. And the same is the case in some of the other examples from private practice which I shall give.

Dr J. Clarke⁴ in 3847 deliveries had 22 deaths, or 1 in 174.

Dr Crosse⁵ in 1377 cases had 14 deaths, or 1 in 98.

Dr Labatt⁶ in 4368 cases had 26 deaths, or 1 in 168.

A London accoucheur⁷ in 2982 cases had 30 deaths, or 1 in 99.

Dr McClinton⁸ in 652 cases had 6 deaths, or 1 in 108.

Dr Bruner⁹ in 334 cases had 6 deaths, or 1 in 56.

Dr Churchill¹⁰ in 2548 patients had 16 deaths, or 1 in 159.

¹ *Fièvre Puerpérale, etc.*, par le Dr S. Tarnier, Paris, 1858, p. 260.

² *Ibid.*, p. 402.

³ *Obstetric Works*, vol. ii. p. 642.

⁴ Speech by Dr McClinton. *Dublin Quarterly Journal* for August 1869, p. 268.

⁵ *Ibid.*

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ *Ibid.*

Among 10,190 cases a physician¹ had 107 deaths, or 1 in 95.

Among 2064 cases Dr T. E. Beatty had 17 deaths, or 1 in 121.²

GENERAL RESULT.

Having led all the evidence I propose to adduce, I now attempt to draw a conclusion from it all. I do so with much diffidence, yet with the full conviction that it is the best approximation to the truth that I can make.

Not fewer than 1 in every 120 women delivered at or near the full time die within the four weeks of childbed.

At this result there need be no astonishment. How many women are delivered in circumstances unfavourable for recovery? Some mothers are immature. Many are diseased. Some begin child-bearing when old. All have to pass through the great risks involved in a first confinement. Some have excessive families. Some are confined under the murderously depressing influence of shame. The accidents of childbirth are numerous—malpresentations, ruptures, eclampsia, floodings; obstetric operations are frequent. Puerperal fever is common.

Before concluding, I must observe that the mortality of any hospital or practice is not, of itself, a measure of success or of failure. It is quite possible that an hospital or a practice with a high mortality may be especially successful. For it may number among its items an extraordinary number of cases of danger and difficulty, and the figures may be so small that a very little addition to the deaths will have a very remarkable influence in increasing the average mortality in it.

Le Fort says that the statistics (p. 63) of private practice of several English accoucheurs have been published, and that their total mortality does not exceed 2 or 3 in 1000. This is vague enough, but I feel confident it is also quite incorrect. Le Fort gives no authority for his statement. I could adduce many more statistics of private practice, but as they do not change the view I have given, I do not encumber my pages with them.

ARTICLE IV.—*On the Combined External and Internal Method of Version, with Cases.* By ALEXANDER MILNE, M.D., etc.

(Read before the Edinburgh Obstetrical Society, 14th April 1869.)

MANY instruments for obstetric purposes have been invented since the time of Avicenna, some of them highly ingenious, and undoubtedly useful, others strikingly stupid and unserviceable, and

¹ Merriman, *Difficult Parturition*, p. 320; where will also be found the reference for the practice of the London accoucheur.

² *Dublin Quarterly Journal of Medical Science*, August 1869, p. 299.

not a few, we fear, like Pindar's razors, made chiefly to sell. There have been hooks many, and crotchets many, and forceps numerous as the "lamps in the blue vault overhead." Head-crushers (cephalotribes), too, are a tolerably numerous progeny since the *monstrum infelic* of Baudelocque was born. By means of some of these vast good has been effected, much evil avoided; many lives rescued, which would otherwise have been the prey of the grim reaper: while by means of others no little disaster has been caused. The good, however, has, we hope, much outweighed the ill.

There is another instrument that antedates the whole of these aforementioned, and which is worthy of a paean for its splendid triumphs, often untarnished by derogatory elements, and that is the human hand. What the hand has done,—how many lives, otherwise doomed, it has saved,—is well known to the profession; yet I have an idea that its great capabilities and powers are not quite so widely appreciated as they might be,—are not so often taken advantage of as they ought. (I may be wrong; and if so, shall be happy in being set right.) For example, how many gentlemen in contracted brim cases still keep pulling away with the forceps in a manner fitted to wear out their own flesh, and what is of greater gravity, calculated to contuse that of their patients, instead of replacing (by means of the hand) the bi-parietal diameter by the narrower bi-mastoid. It is true, it may be averred, that a regard for the safety of the child prompts to this procedure, but this is no fit excuse, seeing that the mother has the primary claim. Moreover, version (*podalic*), *skillfully* performed, presents but few perils for the child. Let the soft hand, therefore, when sufficient and practicable, have the preference over the hard steel, say I at least.

But to return, or rather to come to the precise subject of this paper, that of combined version. The ancient method, as is well known, was by the introduction of a hand within the uterus; what could be done by external manipulation being but little if at all known until pointed out by Wigand.¹ To him is chiefly due the credit of showing what can be done by external handling. He found that the fetus could be moved about considerably by pressure on the abdomen alone, and he concluded that in this way malpositions might be rectified. His plan was to bear externally on the part nearest the os, and to induce the presentation of that part, the internal hand being used chiefly to guide it, and not as a motor power. It is obvious that complete version could not thus be easily, if at all, accomplished, but only malpositions rectified. For example, you might push down the head in a case of shoulder presentation, but you could hardly effect entire version—replace one pole by another, the feet by the head. Wigand seemed aware of this, for he performed cephalic version for the most part. Short-

¹ "Von einigen ausseren Handgriffen, wodurch man, unter der Geburt, die regelwidrigen Lagen der Frucht verbessern kann."—Wigand und Gunfrecht's Hamburg Mag., 1807.

coming then marked his plan, and the cardinal defect lay in trusting too much to external manipulation—in not using the internal hand, or part of it rather, in the way, for instance, of pushing up the presenting part. To Dr Braxton Hicks is due the credit of originating a more excellent method, wherein greater advantage is taken of both the external and internal hands. His plan will be found detailed in his monograph¹ on the subject, but I may give a brief outline of it here. It consists in this. He bears externally with one hand on the part he wishes to present, and internally in the opposite direction with the fingers of the other hand on the part he wishes to recede. Take a case of podalic version, the head presenting. Here by a finger or two (of the left hand) you push up first the head, then the shoulder, while by means of the right hand you bear down the breech. A knee can soon be hooked by the finger, and the process completed. The uterus assists the work, especially when the contained body lies at an angle to its own axis, in consequence of the well-known bias it has to bring the axis of the fetus into correspondence with its own. If the waters have not escaped, the revolution of the child is effected with remarkable ease; it is made to whirl almost with the celerity of a well-greased wheel; and even when the liquor amnii has drained away, provided the uterus be not in a state of tetanus, the operation may often be accomplished without much difficulty.

Then in cephalic version, the shoulder presenting. This latter is pushed upwards in the direction of the feet with the internal fingers, while pressure downwards is made by the outer hand on the head. The latter is received on the tips of the inside fingers, and, with the assistance of the outer hand, can be moved, or placed with considerable freedom. So much for the operation; now for its advantages.

Advantages.—Dr Hicks enumerates a good many, but some of them are of minor importance. I shall endeavour to touch briefly on the chief ones. There is, first, the avoidance of possible irritation, etc., arising from the introduction of the hand, under the ordinary method, into the uterus. Well, I am aware that this manual invasion of the interior of the uterus is viewed by many excellent practitioners as a serious business. They deem it peculiarly prolific of peril; as highly calculated to kindle mischief; to set up, perhaps,

“Dire inflammation which no cooling herb
Or medicinal liquor can assuage.”

Now, I must say that I am unable to join in such apprehensions. I have performed version by the old method about forty times now (three or four times on the same patients for contracted brim), and in many cases where the liquor amnii was long drained away, the uterus contracting pretty freely, and the passages dry, and yet I

¹ On Combined External and Internal Version. Longman & Co. London, 1864.

have never had a bad result worth naming. It is true that my patients were generally well anesthetized—profoundly prostrate under the potent drug; and that I was always scrupulously careful as to the condition of the hand,—that it should be clean, and free from possible germs of disease, and this, perhaps, may have had something to do with the absence of evil result. I say perhaps, because in reference to contagion (the contact of the hand of the accoucheur) as a source of toxæmia in childbed, I am not very clear. I rather think that the mysterious influence, the subtle something, invades the system by a different channel; but, of course, much may be said on both sides. In point of fact, then, from my success, from my never having excited inflammation, or enkindled fever by traversing the inside of the uterus (by the hand), I have come to view that organ as wonderfully tolerant of assault. Like the stomach and the Jews, it bears unrebellingly much rough usage, and is long-suffering indeed!

Another advantage is alleged, that there is less risk of rupturing the uterus, the pressure being opposite to that of the common method. Well, it is true that if the waters be drained away and the uterus be in a state of tetanus, a forcible entrance, and that too opposed to the direction of the motor force, may occasion rupture; but chloroform will counteract and overcome powerfully the most rigid spasm, and induce the most ample relaxation. You may then enter it, as I have done often, gradually and with perfect safety. I have never had the bad fortune to rupture the uterus, and am inclined to think that, in the majority of cases where this sad calamity has occurred, the uterus itself has been in no small degree to blame. That is to say, its walls have become morbidly attenuated and weakened. Of course, I do not allude to forceps cases, it being easy to drive steel through the uterine wall; nor to the recklessly forcible use of the hand, which may easily produce the same lamentable result. On the whole, then, here, and in these days of chloroform, we do not obtain so much advantage. The case might have been different—the operation might have shone more brightly—in pre-anæsthetic times.

Convulsions.—The combined method has further been recommended in convulsions. In these cases artificial delivery has generally to be resorted to, and turning, as a rule, offers us the speediest chance. Now, it is of paramount importance to accomplish the operation with the least amount of peripheral irritation, and that will undoubtedly be the most desirable plan which will involve the most moderate handling of the parturient canal. Have we less of this in the combined method than in the ordinary internal plan? There is undoubtedly less to begin with, for you may turn without much internal manipulation of the uterus at least; but then, in bringing down the child, you may encounter the most serious obstacle from the undilated os. You might avoid this, it is true, by delaying (after version) until dilatation took place; but in

such cases, emphatically, delay is full of danger. You are in one of the profound passes of difficulty, and you must push on with a will and with speed, in order to leave the enemy of peril behind. Uterine irritation, fruitful of fresh, and, mayhap, fatal convulsion, might be the sad reward of inaction. In other cases, however, where the os uteri is pretty dilatable, I am of opinion that Dr Hicks's method will prove of eminent service.

Placenta Prævia.—The operation is also said to be of service in placenta prævia. In this complication, where a capricious chance places the afterbirth (as Shakspeare placed a certain seaport) in the wrong place, our greatest danger is from loss of blood. This is best and most effectually arrested by emptying the uterus; but this is often found quite impracticable, that is to say, by the old method, owing to the obstinate rigidity of the os. The life-blood may be ebbing rapidly away, and your patient be blanched and feeble before you can gain an effectual entrance into the womb. By the combined method, on the contrary, though the os be dilated to no more than the size of a florin, you may succeed in catching a leg, and bringing it down. It is true that you may not speedily effect delivery after turning, owing to the same impediment that debars action under the old plan—viz., an undilated os uteri; but there is less urgency now, for the leg in general proves a useful plug. You bear a little upon it during a pain, and but little blood escapes. This uterine plug is the only one I approve of in this grave complication,—a leg of the fetus whose misplaced placenta has originated all the danger. And the reason is this, when you have caught a leg you have the power of terminating the labour very speedily, in general, if you are unable to say to the flooding, Cease. As a rule, however, the hæmorrhage does cease as the leg is brought down. Under the old or ordinary way, again—viz., plugging the vagina and waiting for dilatation—the great drawback and disadvantage is that you may lose much blood ere expansion takes place, and then you have to do the work of version under circumstances of a more adverse kind—viz., when your patient is reduced and weak, and less able to bear it. While conceding considerable value to the combined plan in this complication, I cannot forbear adding, that I have never experienced insuperable difficulty in turning by the old method in these cases. I can conceive of an uncommonly indurated and unyielding os that might take a very long time to dilate; but I have never encountered one that occupied me more than from fifteen to forty minutes—that is, in placenta prævia. Dr Keiller's dilator, and that of Dr Barnes, are, I believe, admirable inventions; but my apparatus has generally consisted simply of the well-greased (left) hand, working semi-rotatorily, the patient being well under the influence of chloroform. Under this duplex assault, carefully carried out, the os was always soon made to surrender. I have now dealt with six cases, in my own practice and that of others, and all of them have turned out successful, so far as the

mothers were concerned. But it may be said, If you can turn without this operose work of dilatation, why resort to it? I reply that, by dilating well beforehand, you get the uterus more speedily emptied, delivery more readily accomplished, the child sooner and more safely home; for the os is less likely to clutch it as it is being brought down. And this is necessitated in those cases (such as No. 3) where the legs when brought down fail to arrest the flooding. At the same time, were I to encounter an os hard and resistant as a ring of iron, I would prefer the combined method to that of temporizing by means of the tampon, etc., and waiting on for an indefinite length of time. And for this clearly cogent reason, that it is hard lines for the woman, no thorough security against loss of blood being given by the plan. Yes, procrastination here as a rule is particularly perilous, delay fraught with danger; but the custom, if not altogether gone, is at least surely and steadily, if not swiftly, stealing from us. May its departure wax unto the speed of the message that wings its amazing flight along the electric wire!

Contracted Pelvic Brim.—In cases of coarctation of the brim where version is preferred to the forceps, the operation will often be found of no little advantage. It enables you to turn at an earlier period, and before the liquor amnii is spilled, and uterine spasm sets in. In some of these cases where the os uteri is pretty rigid, you may be spared the necessity of dilating it. I have before urged the necessity of dilatation anterior to version as enabling us to effect delivery with greater despatch (such as in placenta prævia, where the flooding may compel it), but here there is no great need for haste, and we may give the os a little time to expand.

The operation may also prove advantageous in cases of extreme depression, whether arising from loss of blood, exhausting discharges, or protracted ill health, and where it is necessary to turn. In such cases the patient may be spared no little shock.

Such, then, are some of the advantages of the combined external and internal method of turning; of utility in contracted pelvic brim, of considerable service in placenta prævia, and of great value in some cases of convulsions. Are there now any difficulties connected with the operation? It is not altogether free of these.

Difficulties.—First, In cases where the amniotic fluid is drained away, and the uterus is contracting firmly around the fœtus—grasping it almost like a vice—much difficulty will obviously be experienced. Here, however, the patient being under the influence of chloroform, you may depress the breech not a little, and thus render a leg more accessible and more easily grasped. As a rule, in these instances the old plan will be preferable. Again, in long-continued transverse presentations, even with the assistance of the anæsthetic, almost unconquerable difficulty will be experienced. Excess of liquor amnii is also an opposing condition. A moderate amount, other circumstances being favourable, renders the operation comparatively easy in most cases, but a great redundancy impedes. A

spate here is as unfavourable as a spate in the angling line. You may in such a case have as much trouble and toil in seizing or bearing upon the contained body as a Waltonian by the river's brim has in hooking a fish. You touch it, you bear upon it, and it recedes—flies from you like your own shadow—when you attempt to clutch it.

The action of the abdominal muscles and the contortions of patients have been named by Dr Hicks as impediments. These in the presence of chloroform are nowhere. Lastly, thickness of the uterus, and more especially of the abdominal walls, may prove a bar. If our patient be much beset anteriorly by adipose tissue—be a very Banting for corpulence—it may be difficult to discover and bear upon the breech; in fact, our efforts may prove altogether nugatory. Such are the chief difficulties which have been experienced. It remains for me now only to say a word in reference to one or two risks.

Risks.—These have not been found (like the cares of kings) either great or grave. Metritis has been suggested, but pressure sufficient to afford even the chance of such disaster should not be practised. Another risk is that of converting, say, a head presentation into a transverse one. This with care can hardly happen, but if it should, you can just proceed by the ordinary plan.

Such are the advantages and disadvantages of the combined method—the former preponderating as I believe. It is an operation I think worthy of more attention than it has hitherto received; that is, in the cold and perhaps over-cautious North, where innovations we fear are occasionally received much in the same spirit as foreigners are by the peoples of China and Japan. I shall be glad if this brief and imperfect notice of it shall incite to a trial of and a trusting in it, in those cases where it is found to be of decided service and value. It was with this view that I penned these few lines, being under the impression also that the subject had never been brought under the notice of this Society.

I now give briefly the cases in which I have adopted the combined method.

CASE I.—In November 1867, Drs Craig and Archibald requested me to see a case at Croft-an-Righ, where the head and a large portion of the funis presented. The os was well dilated, membranes entire, and a good deal of liquor amnii present. Turning was resolved on; and as these gentlemen, being then comparatively inexperienced, were unwilling to incur any risk, it devolved on me. It was a very favourable case for the ordinary plan, but I resolved to give the combined method a trial. I pushed up the head with the left hand, and depressed the breech (which I could feel through the abdominal wall) with the right. Soon a foot came down and was seized through the unbroken membranes. These I ruptured, and delivery was soon accomplished. The whole affair occupied only a minute or two.

Both did well. There was no need for delaying delivery after effecting version in this case, because the os offered no obstacle to the descent of the child.

CASE II.—June 7, 1868, was called to see Mrs H., Leven Street, in labour with her fourth child. She had been delivered before, once by forceps and twice by turning, owing to moderately contracted brim. On examination, I found the head presenting, but pretty high up, membranes entire, os the size of a florin, and rather rigid. I resolved to try the combined method. Under chloroform this was accomplished in about ten minutes, with careful manipulation and without much force. The operation was rather more difficult than in the foregoing case, owing, I imagined, to scantiness of fluid, and greater thickness of abdominal wall. Both got on well.

CASE III.—On the 18th of August 1868, I was called to see Mrs B., St David's Terrace, who had been seized with a profuse flooding. She was within six weeks or so of the full time. On examination, I found the placenta presenting. The os was under the diameter of a half-crown piece, and pretty stiff. As she had lost a good deal of blood and was much exhausted, I resolved to effect delivery. The os was such that I am pretty sure I could have conquered it safely in thirty minutes at least, but I decided on giving the combined method a trial. Something like the head could be felt through the placenta, but I was not very certain about it. Palpation over the abdomen, however, the walls of which were pretty thin, enabled me to detect the breech. This confirmed the suspicion of a head behind the placenta. I then proceeded to dilate the os a little more, and to detach a portion of the placenta for a short way round the cervix. Part of the membranes was then felt, and I succeeded in pressing the head upwards above the brim by means of two fingers. Pressure was at the same time made on the breech by the external hand, and in the course of a few minutes I had the satisfaction of finding a knee at the os. I ruptured the bag and seized it, bringing it down into the vagina. Assured that the os from its still rigid condition would effectually prevent immediate delivery, I waited for a little, keeping hold of the limb. Hemorrhage, however, set in rather excessively, and I was compelled to proceed. After a good deal of force (the shoulders and head being very firmly grasped by the unexpanded os), delivery was accomplished. I almost regretted that I did not dilate more before proceeding to turn. The child cried in about ten minutes, and is thriving, and the mother got on well.

CASE IV.—On the 14th January last I was called to see Mrs R., 13 Potterrow, pregnant for the first time, and in the eighth month, who had been seized with rather violent convulsions. I had been in attendance on her some weeks before for dropsy, the legs and

vulva especially being exceedingly œdematous. There were no labour pains. On examination I found the os undilated and rather rigid; but as the fits were rather frequent and grave, I resolved to hasten delivery. Dr McDermott placed her under the influence of chloroform, and I introduced a finger or two within the os and began to dilate. In the course of twenty minutes it was opened to the size of a florin or so, and I now thought I should try the combined method, as a pretty fair bag was forming, and I could detect the head presenting. The operation was performed in about twelve minutes. No convulsions occurred during the process. As the os was still undilated and pretty rigid I paused for some time, but pains began, and the convulsions also returned. I then ruptured the membranes and made traction on the leg, accomplishing delivery in about twenty minutes. Much difficulty was experienced in making the head pass the os. The child cried in the course of twenty minutes or so, and lives although feeble. The mother recovered slowly. No convulsions occurred, however, after delivery.

These are all the cases in which I have been engaged. I do not know that they illustrate in any striking way the value of the combined method, seeing that they were for the most part cases where I think I could have succeeded pretty well by the old plan. Still they exemplify tolerably well some of its chief attributes, and further show the practicable nature of the operation.

ARTICLE V.—*On the Action of the Cobra Poison.* By J. FAYRER, M.D., F.R.S.E., C.S.I.; Surgeon, Bengal Army; Professor of Surgery in the Medical College of Bengal.

(Continued from page 339.)

NINTH SERIES.

Present—Dr Fayrer and Mr Sceva.

EXPERIMENT No. 1.—15th Oct.—A fish (*Ophiocephalus marulius*), about ten inches in length, was bitten by a fresh cobra, at 11.20 A.M. in two places, on the dorsal and ventral surfaces. 11.22.—The fish turned over on its side in the water. 11.23.—Struggling and plunging violently in the water. 11.25.—Turned over on its side. 11.26.—On being roused, plunges violently. 11.40.—Dead. Bitten at 11.20; died at 11.40. Dead in twenty minutes.

EXPERIMENT No. 2.—A large snail (*Achatina fulica*) was bitten at 11.28 by a cobra; it immediately withdrew itself within its shell. 11.45.—In order to examine its condition, the shell was broken; it still continued to contract. 12.—No contraction; all irritability seems extinct. Dead.

EXPERIMENT No. 3.—Two snails of equal size—shells previously broken; one was bitten by a cobra at 12.28. It immediately shrank and contracted itself. The other snail was not bitten, and was kept for comparison. 12.40.—Irritability of the bitten snail much diminished. The bitten snail seemed to lose its vitality much sooner than the uninjured one; but the precise time when irritability ceased was not noted.

These were the only invertebrate animals I could procure on this occasion. The experiments, though not very satisfactory, leave no doubt that the mollusc was affected by the poison.

EXPERIMENT No. 4.—A full-grown cobra was bitten at 11.40 A.M. in two places near the tail by a *Daboia Russelli*. 11.48.—No effect. 12.50.—No effect. 10th Oct., 8 P.M.—The snake was perhaps not so lively, but there was no marked effect, and it lived.

EXPERIMENT No. 5.—A full-grown cobra was bitten in two places, on the ventral surface and the middle of the body, by a *daboia*, at 11.58. 12.50.—No effect. 16th Oct., 8 P.M.—No effect; the snake lived.

EXPERIMENT No. 6.—A half-grown chicken was bitten by a fresh cobra in the thigh at 12.2. 12.3,45.—It crouched; head drooping; beak resting on the ground. 12.4,30.—Paralyzed; head lying on the ground. 12.5.—Convulsed. 12.5,10.—Dead, in three minutes and ten seconds.

EXPERIMENT No. 7.—A second chicken was bitten by the same cobra at 12.9,30 in the thigh. 12.10.—Leg partially paralyzed. 12.13.—Lying down, beak resting on the ground. 12.13,30.—Paralyzed, beak resting its point on the ground. 12.14.—Convulsed. Dead in five minutes and thirty seconds.

EXPERIMENT No. 8.—A third chicken was bitten by the same cobra in the thigh at 12.17,30. 12.18,30.—Fell over; rested the point of its beak on the ground. 12.19.—Convulsed. 12.21.—Dead, in four minutes and thirty seconds. This chicken was rather smaller than the two preceding ones.

These three experiments show that the snake had lost but little of its power in three efforts. The cobra used in these experiments was not full-grown, but it was very active and vicious.

EXPERIMENT No. 9.—The above small cobra was bitten at 12.35 in two places, on the middle of its body and on the ventral surface, by a large and fresh cobra. 16th Oct., 8 P.M.—Not affected; it lived.

EXPERIMENT No. 10.—19th Oct., 11.40 A.M.—A large dhamin

(*Ptyas mucosus*) was bitten in two places by a daboia. 11.47.—Is partially paralyzed; the mouth is wide open; appears unable to move; respiration continues. 11.47.—Moving about slowly. 11.52.—Appears to be recovering. 12.—More active. 20th Oct., 6 A.M.—Appears sluggish. 10 A.M.—On being roused, moves slowly, but is weak and stiff. Recovered subsequently. 26th Oct., 12.47, 1.—Bitten again by another daboia. 1 P.M.—No effect. Became sluggish, and died at 10.40 P.M., 27th Oct.

Present—Dr Fayrer and Mr Sceva.

26th Oct.—The following experiments were made with the view of again carefully examining the blood before and after the snake-bite. The blood was very carefully examined on three occasions: 1st, before the animal was bitten; 2d, whilst it was under the influence of the poison; 3d, after death.

In no case was anything found to support Professor Halford's theory, or to confirm his observations. There was no appearance of any new corpuscle, nor was there any change of importance in the condition of either the red or white globules of the blood.

My impressions were in favour of the theory advocated by Professor Halford, and if any bias existed, it was certainly for rather than against the explanation he gives of the pathological changes in the blood. Nothing, however, that I have seen after many observations supports the view in question; and I am constrained to believe that the change in the blood is of a much more subtle character than can be detected by the microscope. Moreover, in rapid death, as for example where it occurs in from 30 to 40 seconds, it is impossible that such developmental changes could have taken place. The cause of death is evidently an impression made on the nerve-centres through the medium of the circulation; but it is, I think, evident also that it is one of a dynamical nature, and not immediately dependent on any structural changes that may, if any do, occur in the blood, and can be seen with the microscope. When death is protracted, and the venom has thus time to set up blood-changes, as in the case of zymotic poisoning, I can well imagine that the blood, as such, becomes unfitted for the purposes of life, and that death results in consequence of these changes; but I have not as yet seen anything to confirm this view of the cause of death, nor do the post-mortem appearances show that it is due to asphyxia, from pulmonary congestion or embarrassment. I do not, however, positively assert that such is not the case. I merely record the fact that, up to the present time, I have been unable to discover the blood-changes described by Professor Halford. Further investigation may lead me to a different opinion.

EXPERIMENT No. 11.—A pariah dog was bitten in the hind-leg, very slightly, by a cobra at 11.55 A.M. The blood was examined

before the dog was bitten, and the appearance noted. The white corpuscles were apparently, relatively to the red ones, rather numerous. 12.—Not affected. 12.23.—Bitten again in the right hind-leg by another cobra. The snake struck of his own accord. 12.48.—The dog is fully under the influence of the poison; he is slightly convulsed, lying almost paralyzed on the ground. The blood was again examined; no change could be detected. 12.58.—The dog died.

Blood examined again after death, but no change could be detected. It coagulated firmly when removed from the body after death, which occurred in sixty-three minutes.

EXPERIMENT No. 12.—At 12.4 a pariah dog was bitten on the right hind-leg and on the back by a daboia. The blood had been previously examined; there was nothing peculiar in its appearance. The wounds made by the snake's fangs bled freely. 12.18.—Very much depressed; staggering; almost paralyzed in hind-legs. 12.20.—Lying down, head resting on the ground. 12.21.—Cannot rise; hind-legs paralyzed. 12.40.—Blood again examined under microscope. No change. 12.48.—Dead. Blood examined after death. The microscopical appearances not changed.

In this case death occurred in forty-four minutes. The blood was kept for twenty-four hours after death, and it did not coagulate. It is worthy of note that the blood of the dog in the last experiment, poisoned by a cobra in sixty-three minutes, did coagulate firmly. In neither case did the microscope reveal any structural change in the corpuscular elements of the blood.

EXPERIMENT No. 13.—A ligature was tied round a fowl's thigh so tightly as apparently to obstruct the circulation. The limb below the ligature was then bitten by a fresh cobra at 12.31. 12.33.—Stretches out the leg, and is lame; wings drooping; it seems to be feeling the effects of the poison. 12.35.—Crouching; wings spread out; point of the beak resting on the ground. 12.37.—Fully under the influence of the poison, but can still be roused. 12.42.—Insensible, and is convulsed. 12.47.—Again convulsed, and died. Death occurred in sixteen minutes. This experiment shows that the pressure of the ligature, although it did not completely prevent the entrance of the poison into the circulation, so far prevented it that death was deferred for sixteen minutes. In a fowl of the same size, bitten by a cobra in the same place, had no ligature been applied, death would probably have occurred within one minute.

Present—Dr Fayrer and Mr Sceva.

15th Nov.—The following experiments were made with the view of testing the action of the poison of the *Bungarus fasciatus* on

animals, and the influence of other snake-poisons on the bungarus itself and other poisonous snakes:—

EXPERIMENT No. 14.—A full-grown Bungarus fasciatus, said to be fresh, bit a young dog in the thigh at 1.37 P.M. 1.34.—Restless; moves about, whining. 1.48.—Apparently not much affected. 1.54.—Seems uneasy and restless. 1.58.—Lying down, and getting up in a restless manner. 2 P.M.—Apparently not much affected. 2.10.—Staggers a little; is evidently uneasy. 2.20.—Seems sleepy; when roused he moves about, but quickly lies down again. 2.27.—Is sick. 2.38.—Very drowsy; breathing hurried. Staggers when he walks; vomits, and has general tremors. Bitten at 1.37 P.M., died at 6.5—*i.e.*, in four hours and twenty-eight minutes. 6.5 P.M.—The blood coagulated firmly after death.

EXPERIMENT No. 15.—The same bungarus bit a fowl in the thigh at 1.35 P.M. 1.37.—Fowl runs about much excited. 1.38.—Does not now seem much affected. 1.40.—Apparently not affected. 1.45.—Begun to show the effects of the poison; staggers, and runs with its beak almost resting on the ground. 1.50.—Paralyzed; has fallen over. 1.55.—Is convulsed. 1.57.—Still convulsed. 1.59.—The same. 2.1 P.M.—Dead. Bitten at 1.35, died at 2.1—*i.e.*, in twenty-six minutes.

EXPERIMENT No. 16.—Another fowl bitten by the same bungarus in the thigh at 1.40 P.M. 1.42.—Walks lame on bitten leg. 1.44.—Staggers; fell over with its head on the ground. 1.45.—Is paralyzed; cannot rise or move. 1.49.—Convulsed. 1.55.—Again convulsed slightly. 1.57.—Dead—*i.e.*, in seventeen minutes. Death was more rapid in this case than the last, although the snake had bitten before. The fowl was about the same size as the one previously bitten, and its more rapid death may be attributed to more rapid absorption of the poison, which was probably caused by the snake's fangs having entered a vein.

EXPERIMENT No. 17.—A fowl was bitten slightly by another bungarus, at 1.50, in the thigh. At 2.10.—Slightly affected. 2.25.—Sleepy, but can be roused. 2.30.—Very drowsy; resting the beak on the ground. 2.45.—Still alive. It died at 3.45 P.M.

These experiments prove that the action of the poison of this snake is not so vigorous as that of the cobra or daboia. The nature of its action is probably much the same, but the quantity injected is probably much less, as the poison-fang of the bungarus is so much smaller than that of the cobra.

The Bungarus fasciatus (Bengalee name Sankni) is a black-and-yellow-banded colubrine snake, and it derives its name from a vernacular name Bungarum, used in some parts of the Coast of Coromandel. Their bite is dangerous, but the fang is so short that the

wound inflicted is superficial. They are shy and attempt to escape, but defend themselves fiercely when attacked, says Gunther; they lie coiled up, and, when irritated, dart in a peculiar manner sideways, uncoiling themselves as though with a spring. This is the largest species of the genus *Bungarus*; it attains to a length of five feet or more. It has a wide range—Java, the Malayan Peninsula, Burmah, China, Bengal, and the Coramandel Coast. There are several species:—1. *Bungarus fasciatus*, synonymes *Pseudoboa fasciata*, *Bungarus amularis* (Bengalee Sankni); 2. *Bungarus caruleus*, synonymes *Pseudoboa candidus*, *Boa krait*,¹ *Boa lineata*, *Bungarus lividus*, *Bungarus candidus*, *Bungarus arcuatus*, *Bungarus lineatus*; 3. *Bungarus Ceylonicus*; 4. *Bungarus semifasciatus*; and other species of the same genus, but they are not found in the peninsula of India, I believe.

EXPERIMENT No. 18.—A *Bungarus fasciatus* was severely bitten three times, about eight inches from the head, by a powerful and fresh cobra, at 1.55 P.M. No apparent effect was produced either at the time, soon after, or later. The bungarus was alive and well two days later. It died a day or two after, but its thorax and lungs were found filled with blood. The cobra fang had probably penetrated the lung.

EXPERIMENT No. 19.—A *daboia* was severely bitten by a fresh cobra in three or four places at 2.10 P.M. No present or subsequent effect was produced. The snake remained quite well.

EXPERIMENT No. 20.—Another *daboia* was severely bitten by a fresh cobra about a foot from the tail at 2.22 P.M. No effect produced. The snake remained perfectly well.

EXPERIMENT No. 21.—Two fresh and vigorous cobras were made to bite each other in several places at 2.35 to 2.37 P.M. No evil result followed; both remained quite well.

The result of these experiments has been to demonstrate that the invertebrata and hæmatocryal vertebrata are, like the hæmatothermal vertebrata, subject to the deadly influence of snake-poison. The mollusca, fish, and innocuous colubrine snakes rapidly succumb when bitten by either the viper or the elapidæ.

The weight of evidence, however, tends to show that the poisonous snakes have little, if any, power to injure each other, for in none of these last series of experiments was the bite of a venomous snake fatal to any other venomous snake. The bungarus that died after being bitten by a cobra probably died from internal hæmorrhage, and not from the poison.

¹ This is the krait of Bengal. I have not yet succeeded in obtaining a living specimen. It is found in Bengal, Southern India, and in Assam, but not in Ceylon.

In repeated careful microscopical examinations of the blood of animals before they were bitten, during the action of the poison, and after death, I failed to detect any structural changes, such as are described by Professor Halford.

I may here note, in anticipation of future experiments on the efficacy of the so-called antidotes, that the application of a ligature to the thigh of a fowl bitten by a cobra manifestly retarded the entry of the poison into the circulation, and warded off for a time its fatal effects.

I hope ere long to commence a series of experiments for the purpose of testing the value of various remedies, antidotes, prophylactics, etc., proposed from a variety of sources for snake-poisoning. This will be the natural sequel to the experiments that have been hitherto made with a view of investigating the effect of the poison on the living body and the pathological changes produced.

TENTH SERIES.

Present—Dr Fayrer and Mr Sceva.

EXPERIMENT No. 1.—*12th Dec. 1868.*—A small cobra, about sixteen inches long, was bitten in two or three places, about one-third of its length from the tail, by a very large, powerful, and vigorous cobra of the spectacled variety. The fangs penetrated deeply, and there could be no doubt that the venom was freely injected. When bitten, the young snake threw itself into a series of momentary curves, but on being released it appeared unaffected. It was closely watched for some time, but showed no sign of being affected. It was as active and vicious as before, assuming an aggressive attitude, with its little hood erect, and striking vigorously at anything that approached it.

It was bitten at 11.45 A.M., and I saw it again at 4 P.M.; it was then lively, but looked rather stiff, and disinclined to be so active as it had been, probably owing to the pain and commencing inflammation in the bites. On the 13th, at 5 P.M., there was no apparent change in the snake; it was as lively as ever. *14th, 2 P.M.*—Mr Sceva reports that, beyond a slight apparent soreness in the muscles of the bitten part, there is no change. The snake remains quite well.

EXPERIMENT No. 2.—A small cobra, one probably of the same brood as the one bitten in the previous experiment, and of the same size, very active, vicious, and vigorous, was bitten at 12.15, 12th December 1868, by a daboia that had not bitten for many days, and whose poison glands and ducts were apparently full of poison.

The fangs of the daboia were made to penetrate deeply in a part of the snake posterior to the viscera—that is, not far from the tail;

and a quantity of the poison was shed on the snake, and probably into the wound.

The young cobra, beyond the local effects of the bite, appeared unaffected; on being released, it departed itself just like the one bitten by the cobra in experiment No. 1, and was active, ill-tempered, and aggressive as ever.

At 4 P.M. it was apparently quite unaffected. On the 13th, at 5 P.M., there was no apparent change. On the 14th, Mr Sceva reports of both:—"There appears to be a slight soreness where they were bitten, and the muscles do not act so freely at those parts; but the extremity of the tail, and the anterior part of the body, are as lively as before being bitten."

These experiments are, I think, conclusive, and prove that the poisonous snake is not affected by the venom of its own or of other species.

The cobras bitten were young and weak; the daboia and the cobra that bit them were full-grown, vigorous, and fresh snakes. There could be no doubt that the venom was thoroughly injected, and that the fangs penetrated deeply. The bites were purposely inflicted near the tail, that no chance of injuring the viscera might be incurred.

The bitten cobras were closely watched for 48 hours, at the end of which period no symptom but the local effects of the bite was manifested. I think it may be fairly concluded, from these and other experiments, that the cobra is not affected by the poison either of the daboia or of its own species.

Experiments on the Action of Snake-poison and its Antidote.

Conducted at the Gwalior Residency, in the presence of Colonel C. L. Showers, officiating Political Agent; and Dr J. Macbeth, Superintending Staff Surgeon of Morar.

To JOSEPH FAYRER, Esq., M.D., M.R.C.P. Lond., etc., etc.

DEAR Mr FAYRER,—I have been much interested in reading, from time to time, the published accounts of your own and Dr Shortt's experiments on the action of snake-poison.

There is a man here, a native, who possesses what he believes to be a specific antidote. I was led to institute experiments for its being tested by accidentally witnessing its efficacy in the case of a woman who had been bitten by a venomous snake.

The following record of facts and experiments, which, by the kind and skilful co-operation of Dr Macbeth, Staff Superintending Surgeon of Morar, I am able to lay before you, will place you, and any other professional gentleman whom you may think proper to associate with yourself in the inquiry, in a position to judge whether a specific antidote to snake-poison has been found. It is naturally an object of universal importance. The native has communicated

his secret to me, and desires to proclaim it. But, before doing so, all I wish is that the antidote, after being subjected to every test that can be devised, and to which I am prepared to submit it, shall be admitted by competent professional authority to be really a specific antidote for snake-poison, in order that I may present it as a boon to the world.

The case of the woman above referred to, as having brought the man and his antidote under my notice, occurred on the 1st August last, and may be described as follows:—

A report being made to me that a woman, living in a village adjoining the Residency, had been bitten by a snake and was dying, I sent for the Residency surgeon, and walked over myself at once, attended by a servant, with brandy, in the hope of being able to afford assistance. On arriving at the scene of the accident, I found the woman seated on the ground outside the door of her hut, under a sort of improvised porch formed of branches and leaves, which the villagers had erected at the moment to afford the woman air without exposure to the sun. She was suffering from a succession of swooning fits, having already had eight previous to my arrival, in the interval of about two hours since she was bitten. The marks of the bite were distinctly visible on her ankle.

While waiting for the surgeon, one of the swooning fits recurred. The method resorted to by two men who were treating her was what is known among the natives by the term *jharna phookna*, or to exercise. I had never witnessed it before. It was a strange and painful spectacle. As soon as indications of the approaching swoon appeared, and the woman fell forward from her sitting posture insensible, one of the two men seized her head across the forehead and temples with one hand, the other hand supporting her head behind, and then commenced shouting some *muntras* or charmed verses into her ear, at the very top of his voice; the other man, seated on the opposite side, taking up the last note of each cadence and prolonging it with an indescribable howl, with his mouth close to her ear. After this had been continued for some minutes without any sign of returning consciousness, the man who was supporting the woman by the head commenced shaking her violently, and slapping her and rating her vociferously, in apparent anger at her obstinacy. After some time this had the desired effect, as slowly, with convulsive gasps and other symptoms of distress, she came to herself.

In the interval a man had arrived on the scene, who at once assumed—and was tacitly admitted by the bystanders to do so—the treatment of the case. He quietly put aside the charmers, reassured the woman and her relatives with an air of perfect confidence as to the safety of her life, and pounding something on a stone, he administered it to her. We then left, directing that a report of the progress of the woman's case should be made from time to time. In about two hours another swooning fit was re-

ported—the previous ones having recurred at intervals of about a quarter of an hour. Subsequent reports announced her steady progress and complete recovery. That night she was kept forcibly awake by the instructions of the man who had administered the antidote as a precaution, on account of the long time she had been under the influence of the snake-poison before he was called in.

This case led me to make inquiries about the person who had treated it so successfully, and I sent for him. On questioning him as to the nature of his antidote, he was very reserved at first; but on my offering to take him into my own service, he grew more communicative. He subsequently entered my service and revealed to me the secret of his antidote, giving me some of the material. So confident was he in its efficacy, that he offered to allow himself to be bitten by any snake; but this was a test that it hardly required the fatal example of Mr Drummond's case at Melbourne to place out of the question.

To test the efficacy of the antidote, however, by experiments *in corpore vili*, I sought the co-operation of Dr Macbeth, who, I was aware, took great interest in the subject; and hence the series of experiments which are recorded in the accompanying enclosure.

As the last terminated some weeks ago (12th September), I should not have delayed so long forwarding the account; but under the pressure of public business, entailed by the exigencies of this year's drought, I have never found a leisure hour to transmit it to you. The delay, however, has proved of material advantage to the strengthening of the case in favour of the antidote in the saving of another human life. The case is this:—

On the 2d instant, a resident of Old Gwalior, a carpenter, came to the Residency, in much apparent distress, to say that his wife had been bitten by a snake, and had become insensible from the effects. Hearing, he added, that there was a person in my employ who could administer relief, he had come to seek it. I sent my servant with him. He administered the antidote to the woman, which, as he reported on his return in the evening, had brought her round.

The following morning I sent to inquire how the woman was, and desired that if quite recovered, her husband, the carpenter, and herself, should appear at my office. They duly came the same day. The marks of the bite were distinctly visible on the woman's finger, but she had quite recovered from the effects of the poison. I had the man's deposition taken by my office moonshee, and append a translation of it, which will be found at the end of the record of experiments.

The importance of the subject may be gathered from the fact recorded in the last Oude Administration Report, that 1127 persons died from snake-bites during the past year, and, again, in the Central Provinces Administration Report, that 1074 had died from the same cause during the three preceding years. These figures, referring to isolated districts of India, may afford some approximate

idea of the mortality arising from this cause throughout India and all other serpent-infested countries of the East.

The boon to humanity, then, if the efficacy of the antidote be established, could hardly be over-estimated.—Yours very truly,

GWALIOR, 25th October 1868.

C. L. SHOWERS.

First day, 26th August 1868.

1. A full-grown cock was given to the *kelaree*,¹ who administered his antidote. The feathers having been plucked from one thigh and partially off the breast, the bird was freely bitten more than once in our presence by a lively cobra, over four feet long. The cock showed no symptoms of distress of any kind, and, after an hour, was let loose, and ran about apparently uninjured. Did not at any time subsequently exhibit any symptoms of distress.

2. A rabbit would not have the antidote administered by the *kelaree*, whose hand he bit severely in the attempt to do so. The rabbit was then twice bitten by a cobra over four feet long, on each occasion giving vent to a painful cry. It was then let loose, the poison taking very rapid effect; the animal fell on one side, then sat up for a few seconds, after which it tumbled over; showed great distress,—hurry and irregularity in its efforts to breathe; heart's action became rapid, feeble, and irregular; the pupils of both eyes were violently acted on by some foreign influence; ultimately became quite fixed; and, in $3\frac{1}{2}$ minutes from the time of being bitten, the rabbit gave a convulsive shudder and was dead.

3. A full-grown pariah slut, seemingly in perfect health, was handed over to the *kelaree*, who administered his antidote on a piece of meat, which the slut swallowed in our presence at 8.39 A.M. She was then bitten on the inner side of the left thigh by a fresh cobra over four feet long, which closed its jaws upon the place, holding on for some seconds. Several other attempts were made to make the cobra bite again, but it is not certain whether a second bite was given or not. The slut was then tied up; meat was offered to her about an hour afterwards, at the instance of the *kelaree*, which she refused. He subsequently gave this as a reason why he thought his antidote had not been quite powerful enough, but said confidently that the remaining effects of the poison would pass off in a few hours. The slut showed no symptoms of distress nor lethargy for two hours, after which she lay down and appeared drowsy. The *kelaree* then administered a second dose of his antidote, which, in the course of an hour, entirely dissipated all drowsiness and weakness. At 1 P.M., the slut, having been for about an hour and a half lively and apparently well, was let loose, and ran away to the neighbouring village, to which it belonged.²

¹ Snakeman.

² This slut sickened towards evening; and, being at a distance from the *kelaree*, and her state being unknown to him, no further antidote was administered. The following morning she was insensible; spasmodic cramps and

4. Another dog, full-grown, in good condition and apparent health, was bitten at 8.48,50 A.M. by a cobra over four feet long, the snake closing its jaws upon the place. Strong symptoms of uneasiness after three minutes, with very hurried and spasmodic breathing; pupil of eye violently acted on. In about fifteen minutes action of the heart much enfeebled and very hurried. Pupil of eye still more, evidently under a foreign influence; very shortly after this the breathing became more hurried, and the animal very restless. Frothy saliva also began to flow freely; *kelaree* asserted the dog would go mad. Shortly afterwards, on putting anything within reach of his mouth, he snapped spasmodically and laid hold of a rope, but more convulsively than with any object. First effects seemed to be excitement and distress, followed by considerable lethargy, after which its muscular efforts appeared to be nervously spasmodic, excited by some foreign influence, and evidently not voluntary. The hinder extremities first appeared to lose power; action of the heart hurried, weak, and intermittent; about this period the pupil of the eye became fixed, lower jaw powerless, tongue lolling out, and of a bluish-black colour; and breathing distressed, hurried, and spasmodic, with only partial expansion of the chest. Died easily, after one or two slight spasmodic gasps, at 9.29—that is, in 40 minutes and 10 seconds after being bitten. Just before death it showed a dislike to the presence of water.

Second day, 7th September 1868.

1. Pariah dog, without antidote, bitten at 7.39 A.M. Bitten twice on right leg and inner part of left thigh, on both which occasions he gave tongue as if in pain. In about ten minutes afterwards the same appearance in pupils of eyes as in the previous experiments. In about a quarter of an hour strong convulsions, with involuntary evacuations of the bowels, and subsequently, at intervals; made violent attempts to bite everything within reach, including his own legs and tail. This the *kelaree* described as a symptom of hydrophobia, or his idea of dog-madness; shortly all struggles ceased, the power of motion seeming first to leave the posterior limbs. A good deal of viscid saliva flowed from the mouth, and, as before, the tongue was observed lolling out, livid in appearance. The circulation in this case became more gradually affected than in the previous experiments; the heart's action continued for six minutes, gradually becoming feeble, after all pulsation in the arteries had ceased. Died at 8.15 A.M.

2. Second dog, without antidote, bitten at 7.54,58; died at 8.23,30—that is, in 28 minutes 28 seconds—exhibiting more or less the symptoms recorded in the foregoing case.

3. Third dog, with antidote previously administered, bitten at convulsions, frequently recurring, supervened, tongue lolling out, and of a dark colour. Died at 3 P.M. on the 27th—*i.e.*, 30 hours 19 minutes after being bitten.

8.13 A.M. Remained quite unaffected, and, being kept tied up for three days, did not exhibit at any time anything wrong.

4. Fourth dog, with antidote, bitten at 8.39 A.M. Remained quite unaffected, as in the foregoing case.

5. Previous to this experiment, the *kelaree* asked whether the fresh snake should bite a prepared or an unprepared animal. We selected the former in this instance, having already seen two dogs die, Nos. 1 and 2.

A prepared full-grown pariah was then bitten, the first time at 8.57 A.M., and a second time at 8.57.30. Both times the jaws were firmly closed on the limb. The *kelaree* says that it was bitten a third time before the snake was disengaged from the dog, but we saw only the two bites above recorded. The dog remained perfectly unaffected after two hours, when the *kelaree* was told to take all three dogs away to his house, report their state in the evening, and, if alive, to bring them up to the Residency for inspection the next morning.

The *kelaree* reported in the evening that the dog last bitten—twice as we saw, but three times as he affirms—had vomited at 3 P.M., and exhibited other symptoms of distress; and that he had in consequence administered to this dog more of his antidote, and that it was doing well.

The following morning—that is, in twenty-four hours after being bitten—it exhibited great weakness and distress, and decided symptoms of being under the influence of poison. We thought it would not recover, but the *kelaree* appeared confident it would. Antidote was again administered; grew better and stronger towards the evening, and the following morning—that is, in forty-eight hours after being bitten—had quite recovered. It was kept tied up a third day, when all three dogs, in perfect state of health, were let loose.

Third day, 12th September 1868.

Experiment with one and the same cobra biting two full-grown pariah dogs in succession, at an interval of a quarter of an hour; the first being prepared with the antidote, the second without. This experiment was tried to afford an *a fortiori* test of the efficacy of the antidote.

1. Prepared dog bitten at 7.42 A.M., the cobra closing his jaws twice upon the part. Remained quite unaffected, apparently, for four hours, after which began to exhibit symptoms of distress, with increasing weakness. The following morning too weak to stand; tongue beginning to exhibit signs of paralysis, and becoming dark-coloured. Antidote was again administered; towards evening strength returned; dog ate food. Second morning—that is, in forty-eight hours—quite recovered; was kept tied up for a week; never at any time exhibited any return of symptoms.

2. The other dog, in natural state—that is, unprepared—was bitten by the same cobra at 7.57 A.M. in two places,—on the back, and in

the line of the spine. At $8\frac{1}{2}$ —that is, in thirty-three minutes—it began to show symptoms of being under the influence of poison. All the symptoms noted in previous experiments developed themselves,—such as affections of the pupils, convulsive twitchings of the jaws and limbs, paralysis of the tongue, with gradually-increasing swelling and lividity, sluggish circulation, and feeble heart's action. In this instance there was but little struggling or violent convulsions in comparison with the other case noted. Died at 9.5—that is, in one hour and eight minutes.

*Deposition of Davee, carpenter, residing in Ghaspoora, of Gwalior.
Taken 3d October 1868.*

This woman, by name Jusoda, is my wife. Yesterday she was bitten by a snake on the fourth finger of the right hand, about eight A.M. Blood flowed from the two wounds. We adopted the usual remedy of *jharna*, or exorcism, and, by making a great noise, tried to prevent her from going to sleep, but without success. She soon became speechless and insensible. Having heard that the political agent had a person in his employ who could cure snake-bites, I came to the Residency to seek aid. The political agent sent his servant back with me. He gave my wife some medicine in *dhye* (curded milk), which revived her, and she recovered, and the anger of the deity was appeased.

(True translation.)

(Signed) PIRTHEE NATH, PUNDIT, *Translator of the Gwalior Agency.*

(*To be continued.*)

ARTICLE VI.—*The English Doctor in Southern Manchooria.* By JAMES WATSON, M.D. Ed., L.R.C.S.E.

THE port of Newchwang is the most northerly of those open to foreign trade in the empire of China, and it is situated in latitude 41° N., and longitude 122° E., on the last complete bend from east to west of the river Leaou, before it empties itself into the gulf of the same name. It is the principal port-town of Fungsang, the southern province of Manchooria, and it runs parallel to the river. If I had entitled the following notes "The English Doctor at the port of Newchwang," the title would upon the whole have been more nearly correct; but as I wish to say a few words about the climate and the people, both of which are common to the surrounding country for many miles, I have chosen the more attractive and comprehensive title. The physical characteristics of the country for many miles in every direction around this port-town are tame and uninteresting. The only elevations that attract attention in the

immediate vicinity are the mounds piled up over the graves of the departed; otherwise the country is a dead, dull, and dreary flat. What makes this immense plain (the basin of the river Leaou) the more monotonous is the great scarcity of trees and shrubs, and the almost entire absence of grass. A few wild flowers, not destitute of grace of form and beauty of colour, are to be seen scattered here and there; but generally speaking, these, with the other beauties of nature, are most conspicuous by their absence. If, in the immediate neighbourhood of this port-town, and for a circle of about twenty miles, the country is flat and uninteresting, beyond this circle, if not actually within it, the eye is relieved and satisfied by a great stretch of mountains, which runs in a direction nearly north and south, and extends for several hundreds of miles. It is from this mountain-range that the river Leaou takes its rise. But for these mountains, the poverty of the scenery would be almost unbearable; but with these to relieve the great plain (extending in one direction seventy miles), the eye has what it always seeks, and without which it is never satisfied—contrast. Nevertheless, to a stranger, when he makes his first entry into this part of Fungsang (for other portions of the province are mountainous and varied in their character), the impression made upon him is anything but pleasing. He feels it the more if he has been reared in the vicinity of hills and vales, or meadows verdant with grass, and rich in trees. If, to crown all, he has come from Edinburgh, that city set upon a hill, and which to her children far removed from her seems fit to be the joy of the whole earth, the first effect produced by the poverty of the scenery is simply and unmistakably depressing. This being so, it may naturally be asked, What can such a place have to recommend it? To which I answer, If it has nothing else of which it can boast, it has at least a good climate.

Climate of Southern Manchooria.—Although, since coming to this part of Manchooria, I have only passed a short time in the interior, and amongst the mountains, still, the remarks I have to make of the climate of this place hold good so far as the southern province of Manchooria is concerned; and the difference as regards the other two provinces which are situated north of this one is, that the summers are milder and shorter, while the winters are much colder and longer. The port of Newchwang, although not so far north as Edinburgh (indeed, having a latitude very much the same as Rome), has a summer considerably warmer, and a much colder winter.

Summer of Southern Manchooria.—In the summers of every year, the thermometer (Fahrenheit) indicates in the shade for several days heat as high as 84°, and occasionally, but rarely, higher. In the sunshine, of course, the heat is very much more, but practically 84° is the greatest heat in our houses, where care is taken to have the Venetian-blinds closed before the sun's rays strike into our windows. Foreigners, as in the south of China, when they have occasion to expose themselves during the heat of the day, either

carry a white-covered umbrella, or wear large pith hats, which are broad, thick, and light. Thus protected, they can move about comfortably, and without danger, in the hottest weather, but of course prefer either the early morning or evening to engage in hard work or active exercise. Unlike most places which have so warm a climate, the southern province of Manchooria has no rainy season. True it is, there are falls of rain of such violence and quantity as are seldom experienced in England, and which, while they last, equal the ordinary rains of tropical climates. But the difference between the rains of the tropics and of Southern Manchooria consists in this, that in the former the rain is continuous, or nearly so, for weeks, while here it is very exceptional to have it continue more than twenty-four hours at a time. Here, again, very unlike the tropics, the rain is no sooner over, than the air becomes dry and bracing. Even in those weeks of summer in which we have most of our days of rain, such days are generally followed by one or two weeks of cloudless weather, such as are rarely, if ever, seen in England. In this respect, our climate is exceptionally fine. Heat, which would be intolerable, or nearly so, with the moist, drenching atmosphere of the south of China, is here, in consequence of the dry air, borne with little discomfort. Europeans, who in the south of China would be incapacitated for hard labour, in consequence of the moist atmosphere, with a less heat than we have often in this province, are to be seen toiling in the sunshine, without injury to themselves, and apparently without much inconvenience. I have above spoken of cloudless skies, and we have weeks of such weather. But we have also much fine weather with clouds. These, however, are so high, so light and fleecy, the clear blue of the atmosphere is seen beyond so distinctly, that to an Englishman they do not suggest clouds. These sky-clouds are frequently seen infinitely fashioned, coloured, and indeed form the most beautiful aspect of our scenery. They redeem from utter tameness a portion of country which, without them and the bright sky, would, in more senses than one, be extremely flat.

Winter of Southern Manchooria.—If the summer of this province is warmer than that of England, the winter is a great deal colder. For several months the thermometer (Fahrenheit) is daily during some portions of the twenty-four hours below the freezing-point, for two months very much below the freezing-point, and for several days of each winter is from four to ten degrees below zero. These degrees of cold do not last throughout the twenty-four hours. Generally speaking, even in the coldest weather at mid-day, and exposed to the full effect of the sun, the cold is not very many degrees below the freezing-point. In the shade, and within doors, however, the cold is considerably below the freezing-point. With a climate so much colder than that of Great Britain, it would naturally at first be concluded that Englishmen would suffer from the cold, so much more severe than that to which they were accustomed in their

native country. But it is not so, unless when exposed to the strong north wind which sometimes blows with great force during the winter, or when making long journeys on horseback. I find Englishmen as a rule do not dress much if at all warmer here than they do in their native country. On the other hand, it is exceptional to hear one complain of cold. Their system is so stimulated by the bracing air, that gentle exercise is sufficient to excite and maintain out of doors a grateful and pleasant warmth.¹ Often, indeed, people go about here during the day without the heavy overcoat, which in our wet winter at home is to most people a necessity. If in summer, it is the dry air which makes labour, if not pleasant, at least possible during the heat of the day; so in winter, it is the dry air which makes labour pleasant, and gentle exercise practicable, nay agreeable. The same cause, dry air, operating thus under widely different conditions in the heat of summer and the cold of winter, enables us, without discomfort or detriment to health, to encounter extremes of temperature unknown at home. Within doors, as I have said, the cold is much below the freezing-point for several months. Here foreigners generally, and even Englishmen as a rule, have adopted the American stove as the apparatus best adapted to meet the cold. That it is preferable to the open fireplace, those most prejudiced against it, have upon experience, as a rule, admitted. Still, there are some people who become so wedded to ideas, that it is almost impossible for them to change them. An English merchant at this place, famous for his hospitality, was also singular in his preference for the old-fashioned English fireplace. This partiality was so great, that the strongest argument conceivable—namely, the intense cold—did not change it, until one wintry day sickness occurred in his family. The patient had a little fever, and I ordered a saline diaphoretic mixture, a portion of which was to be taken several times during the night. A splendid fire was burning in the grate, the bottle containing the mixture was placed upon the mantelpiece, but when the second dose was needed, the mixture was frozen completely into a solid mass. This fact (and perhaps a few others) convinced my friend, I think, that this climate requires a better heating apparatus than Englishmen at home are generally content with. Having touched on the subject of heating rooms, perhaps I may be permitted to say a word in favour of ^{the} American stove, and against the prejudices which prevent its general introduction into England.

¹ That Englishmen can endure the cold weather of Manchooria better than that of England, under depressing circumstances, will, I think, be admitted when I state, that a marine at this port-town underwent solitary confinement for fifty-two days in the British Consulate prison without fire, and at the end of that time was in perfect health, and slightly heavier. He was allowed full diet. The coldest temperatures during the nights he was imprisoned were as follow:—20, 18, 18, 22, 8, 6, 9, 11, 20, 19, 18, 21, 13, 20, 14, 12, 28, 11, 8, 25, 12, 6, 0 (zero), 6, 10, 14, 20, 14, 15, 7, 5, 11, 20, 19, 2, 3, 3, 4, 15, 20, 13, 15, 4, 13, 11, 12, 13, 10, 24, 17, 7, 2.

The Stove versus the Open Fireplace.—In the *Quarterly Review* for April 1866, there is a very able and interesting article on *Coal and Smoke*. The writer justly smiles at the “English fireplace, so cheerful and attractive, even though we may be roasted on the one side, and frozen on the other.” This picture is not in the least exaggerated. It is literally true. And the consequence is, that not only do the strong suffer much discomfort, but the weaker of our sex, delicate women, old men, and all with impaired circulations, suffer to a degree which it is impossible to measure, but which it does not require a medical, but simply a moderately sensible, man to see must be fearful. If it were possible to tabulate the number of lives cut short, the diseases induced, and the amount of misery endured from simply using insufficient heating apparatus, I do not hesitate to say, the table would be one of the most appalling ever printed. It is sad to think that much of the misery might be at once removed, if stupid prejudice did not exist in favour of the present English fashion, and against the more sensible and much more economical American one.¹ An objection one hears constantly urged against the introduction of stoves into England is, that they give rise to a disagreeable smell. I fancy this is what the Quarterly Reviewer means when he speaks of the air being “heated” instead of “warmed.” When the air does become “heated,” this is simply due to the carelessness of those using the stove,—all moderately good ones being provided with simple means of increasing or decreasing the draught, and so regulating the heat. This smell, I have no hesitation in saying, is *not* due to organic particles floating in the air, and which come in contact with the heated stove, but to an over-dry and over-heated condition of the air in the room. Generally speaking, the smell complained of will be removed or prevented by having an open vessel filled with water constantly upon the stove. In Manchooia, where the air is very dry, unless in exceptionally large rooms, such a vessel is necessary; but in the moist winters of England, I think very likely such an apparatus might be dispensed with. The amount of coal saved by stoves, now that there is such a general fear that it will soon be exhausted, should have some effect on the general intelligence; but if this consideration fails, one would expect that the prospect of a *personal* gain would be all-powerful in furthering the introduction of the coal-saving stove. A long narrow room at this port-town, measuring 6300 cubic feet, is completely and pleasantly heated by considerably less coal burned in an American stove than would be required to heat (imperfectly) a room of one half the size in England by means of the open fireplace. If people at home in November or December only once or twice felt the pleasurable

¹ In these remarks, I contrast the open fireplace with the American stove, because I am not practically acquainted with any other; but I am informed, and I consider it very likely, that the Swedish stove is as economical, and, in some respects, an improvement on the American one.

sensation of being actually warm *all over* at any part of a room, heated by an American stove, the prejudice against it would have a fair chance of being overcome. The idea that the open fireplace is necessary for free ventilation is absurd and false. Even if it were true, we might as well lose a few lives from defective ventilation, than many from insufficient warmth, with much discomfort into the bargain. To my mind, the question of insufficient heat is as serious as that of insufficient food, air, or clothing. The mystery is, that people who are constantly complaining of cold, should not at once adopt a system of heating their houses requiring less labour, which is more economical, and is in every sense better adapted for the comfort, health, and happiness of all concerned. That stoves can be made sufficiently elegant to gratify the taste of the most fastidious, no one who gives the subject a little consideration can doubt. This, therefore, need be no argument against the introduction of stoves; and it is a mistake to believe that it is impossible to see the fire burning in them, as the great majority of those in use permit of this very questionable, but, apparently to Englishmen, necessary condition.

Having thus spoken of the climate of Southern Manchooria,¹ and parenthetically considered the question of stoves *versus* open fireplaces, I would now say a word or two about the people of Manchooria.

The People of Southern Manchooria.—The people are generally agriculturists. They are, as a class, poor and industrious. Their mode of life is simple and inexpensive. Like all Chinese, they marry young, and are anxious to have children. The people of

¹ Mr Consul Meadows, in his trade report for 1865, under the head of general remarks, gives a table of extreme temperatures, the result of five years' observation of this climate. The observations were taken from Fahrenheit's thermometers, suspended on the northern faces of stove walls. This table I reproduce here:—

MONTHS.	COLDEST.		WARMEST.	
	Morning at Daybreak.	Afternoon, 2 to 4 P.M.	Morning at Daybreak.	Afternoon, 2 to 4 P.M.
January, . . .	10°	3°	39°	44°
February, . . .	10°	7°	35°	50°
March, . . .	0°	14°	43°	60°
April, . . .	27°	41°	53°	68°
May, . . .	41°	52°	65°	74°
June, . . .	57°	70°	76°	84°
July, . . .	62°	74°	79°	87°
August, . . .	63°	73°	77°	85°
September, . . .	41°	52°	73°	80°
October, . . .	42°	42°	66°	71°
November, . . .	17°	17°	52°	61°
December, . . .	6°	2°	37°	44°

Manchooria are *true* Chinese. Manchoo villages occur here and there, scattered over the province, but they are few and far between. Compared to the Chinese in number, the Manchooks in this province are altogether insignificant. Even where there are Manchooks, there is little to distinguish them from the true Chinese, as the latter, though conquered by the former, have compelled their victors to adopt their language, dress, and customs generally. Perhaps the most striking feature of a Manchoo village is the absence of small feet in their women. The men of Manchooria are, as a class, tall and well built compared with the southern Chinese. Their food consists of rice, millet, fish, pork, and a kind of native whisky. The common people generally make millet their principal food. Rice is dearer, and it is only those comparatively well-off who can afford to eat it in quantity. There is little doubt, I think, that the fine muscular development, and the capacity for severe and sustained work which characterize the boatmen, agriculturists, and labourers, are due to the millet, which is the everyday fare of the northern Chinese; unless, indeed, the new theory is the correct one, which regards carbonaceous food as the great producer and sustainer of force; in which case, the explanation may be found in the oils, bacon, and other greasy foods, of which they are so fond. A great many Chinese have a strong prejudice against the use of beef.

The basis of the Chinese complexion is yellow. In the south the yellow becomes deep, and even dark, while in the north of China the yellow pales and rarifies, and is completely overpowered by the healthy ruddy complexion commonly seen in the country districts. All Chinese have dark hair and black eyes. I have spoken to Englishmen, keen observers, who have been twenty years in China, and who have resided in the north as well as the south, and they assure me that they have never seen a Chinaman with light eyes. Consul Meadows of this port pointed out to me an observation he has made, and which distinguishes the Chinese face from that of Englishmen, and, I believe, Europeans. If the straight edge of a paper-cutter, for instance, is placed vertically across the centre of the supra-orbital ridge and the malar bone, it will be found that not one in a hundred Chinese can open the eye thus crossed, while most Englishmen can do so with the greatest ease. This observation I have verified, so far as the Chinese of this province are concerned. The Chinese fail to do this, not because they are deficient in *cheek-bone*, but because the frontal sinus is not nearly so large in their case as in ours. Foreigners are aware that the Chinese seldom, if ever, have whiskers; but I do not think it is quite so generally known that not one man in a thousand could grow them, if he would. Even the beard and mustaches, which are cultivated for pleasure, are very thin.

General Health.—Having thus spoken of the Chinese of Southern Manchooria, I would now say a few words about the general health of the people. With such a climate and such simple

habits, it will naturally be concluded that the people are healthy. Such is the case in the main. But as the Chinese are nowhere distinguished for cleanliness, they have to pay the penalty here as elsewhere. A long cold winter induces amongst the natives a tendency to uncleanness in their persons, not known in the south of China. Filthy persons are thus easily satisfied with filthy homes, and as a consequence of these two, filthy habits are common to the people. The only scavengers known here, as in many other parts of China, are the ever-present fat and lazy pig, and the no less constant, but, in this case, lean and hungry dog. These two scavengers do the rough work fairly enough, but, of course, inasmuch as both are more or less domestic animals, they rather tend to increase than diminish the less gross filth, which is almost universal in this part of Manchooria. The result is, that epidemics occasionally occur, and, as might be expected, their deaths are very numerous. Smallpox is never absent, and sometimes assumes the epidemic form. Every fourth or fifth person one meets here is more or less smallpox-marked. In the immediate neighbourhood of this port-town ague is almost unknown, although in some villages, distant from ten to twenty miles, it is more or less present. Eye-diseases are common amongst the poorer people, due principally to two causes—namely, filth, and an insane habit which most Chinamen have of exposing themselves to the direct rays of the sun without any head-protection whatever. It is extraordinary, under the circumstances, that they so seldom suffer from sunstroke.

Practice in Manchooria.—Under this head, the foregoing remarks prepare the reader to expect little. The climate is so good, that foreigners, as a rule, are healthier here than at home. During the last two years I have had a considerable amount of practice amongst the poor Chinese; the acute cases generally doing well, but the chronic cases, either from the nature, indifference, or poverty, and consequent inability to carry out my directions, have often proved unsatisfactory. An old standing case of hydrocele occurring in a Chinaman, which I tapped and injected with iodine, speedily resulted in a cure.

One day while riding with a party of friends in the country, I was attracted by a man surrounded by a crowd of people, within the enclosure of a native inn. The man, who turned out to be a doctor, was alternately engaged in wetting a kind of hair-pencil in ink (with which he described several circles in the face of the sun), and gravely and methodically painting the forefinger of a boy, whom he held by the hand. Mr Macpherson, the Commissioner of Customs at this port, who speaks Chinese well, asked what all this meant. He was gravely informed that the boy was being cured of a painful finger, which had prevented him sleeping for several nights. We waited some time to see the result of the treatment, which, from the boy's expression, was far from satisfactory. Under these circumstances, Mr Macpherson suggested a consultation with

me, which was at once acceded to. I perceived the boy had a bad whitlow, and recommended the China doctor to make a free incision, with a pen-knife, which was presented to him for that purpose. But he graciously declined, and asked me to undertake the serious (!) operation. The knife, which was blunt enough, did its work, and a large quantity of pus escaped from the wound, much to the relief of the boy. After fomenting his finger in warm water, and having applied a poultice to it, he performed the usual *kow-tow* to us, as an expression of his gratitude. I mention this simple circumstance to indicate how far back the natives are in their notions of surgery or medicine. The poor boy might have cried his life out, but this simple mode of relief would never have been resorted to by them. Indeed, the doctors are, as a class, as ignorant as the people, and the immediate effect of the whitlow being cut astonished the doctor quite as much as his patient. The poor people often come to me to have such small services done them, but invariably forget to bring a fee—indeed, they are generally so poor as to be almost unable to give one.

Since my arrival at this place, I have removed a good many tumours from the neck, arm, and shoulder. One of these occurred in a Chinawoman, and as her good looks were being interfered with in consequence of its considerable size, she consented to have it removed. It was situated in the parotid region, and, after a little careful dissection, it was removed from its adhesions. The tumour was fibrous in its character. In another case, I had greater trouble in removing a tumour situated in the anterior triangle of the neck, where the patient was the master of a Danish vessel. An accident had destroyed all my chloroform, but as the tumour felt movable, and I could not make out any deep attachments, I offered to remove it, and my patient submitted. But what with a considerable prolongation, extending beneath the sterno-mastoid, and the restlessness of my patient, who winced under the pain of dissection, I feared I should be unable to remove it completely, although, in attempting to do so, I cut through a small portion of the sterno-mastoid muscle. Under those circumstances, I embraced as much of the tumour as possible in a ligature, and was contemplating leaving it to slough out. I, however, made one more attempt. Having sponged the parts well, I caused the tumour to be held tense, while I carefully applied the scalpel. After a few strokes I had the satisfaction of removing it in its entirety. The patient did well. The other tumours removed, some six in number, had nothing particular to call for special notice. All the wounds healed kindly, a great portion of each uniting by the first intention. The bleeding was stopped by acupressure. About five months ago a friend asked me to ride with him to a village, some three miles distant, to see a poor man seriously wounded by robbers who, the night previously, had broken into his house. The poor fellow had a great many small-shot, somewhat triangular in form, sunk in many parts of his legs

and body. He complained of pain over the belly, but the fever was slight, and the pain by no means severe. I picked out some shot, enlarged several wounds, and presented a sedative mixture and hot poultices during the night. The next morning his bowels were moved, and he passed a large quantity of blood in clots. There was still fever, but it was by no means severe, and there was no tympanitis, although one or two small-shots had evidently entered the peritoneum and bowel. The fever continued a few days more with considerable pain over the whole abdomen, but both gradually subsided, and in a few weeks my patient was able to resume his work. Unfortunately, while my friend and I were in the house attending to the poor man, several villagers outside were attracted by the firearms with which my friend's groom was armed. The groom (a good-natured fellow) had been asked to show his pistols; and willing to please, and no doubt anxious to display his weapons, began to explain their mechanism. While doing so, his pistol (one of Colt's) went off, and the ball passed through the left and right thighs of a boy about ten years of age, and then through the forearm of another boy. The ball, which just missed the femoral vessels in the groin of the left thigh, happily damaged neither of the thigh-bones, nor the bones of the forearm. The boy whose two thighs were shot through suffered severely from shock, but, when he recovered from that, made a complete and speedy recovery. Both children are now running about in good health, nothing the worse for their narrow escape, and somewhat the richer for the Mexican dollars with which they were presented to hasten their recovery.

While speaking of injuries inflicted by firearms, I may narrate the history of a circumstance which so nearly proved fatal to several Europeans, and which was seriously disastrous to one, and fraught with anxiety to the whole foreign community. I give a few particulars not essential to the appreciation of the surgical or medical facts, but because those particulars may, in themselves, be interesting, and because they show how easily and at any time gunshot-wounds may be common enough in this quarter of the world. In the spring of last year (1866) one of our merchants (Mr Knight), who is also consul for America, was informed that a servant in his employ was taken prisoner by a body of men named Sworders or Sword-racks, because he would not allow his wife to be made a prostitute of by them. This is the coolie's story, which may be true or false. These sword-racks or sworders number, or numbered at the time of which I speak, between seven hundred and one thousand men. They are a body of combined scoundrels, who defy the mandarin authority, and levy a black-mail on the hard-working and virtuous natives. Compared with the generality of the people they are well armed, and are thus able to enforce their claims when, as rarely happens, these are disputed. The people are in mortal terror of them, and they may well be so, as it is not unknown that on several occasions the authorities have been forced to ally them-

selves with this vile class. When Mr Knight heard of his servant's imprisonment, he asked two or three other Americans to accompany him to the native town for the purpose of freeing his coolie. When on their way thither, they met the coolie returning to his master's house. Mr Knight, however, anxious to know the house where he had been confined, and to test the truth of his story, made him lead the way to it. The party had approached within a few yards of the house, when a number of sword-racks, armed with gingalls (native guns) and spears, first fired upon the foreigners and then attacked them. It would have been madness for the foreigners to fight, as they would at once have been overpowered and murdered. They therefore ran to the river, distant about a mile, and fortunately found a boat, which they at once took possession of, pushed into the river, and thus narrowly escaped being killed. When Mr Knight and his party returned to the settlement, a consultation was held, and it was determined he should wait on the principal mandarin; but to prevent, if possible, the recurrence of a similar adventure to the above, Mr Knight wisely induced about a dozen men of different nationalities to arm themselves and accompany him. Having seen the mandarin in question, and arranged that he should next day visit the sworder's house, and officially sanction its demolition, Mr Knight and his party left him. Returning home, they had occasion again to pass the sword-rack's house, when, as before, the foreigners were fired upon. Being now armed, and in somewhat greater numbers than on the last occasion, the fire was returned, and at least two Chinamen were killed and several others wounded. Unfortunately, several of the foreigners were wounded too; and after a short engagement it was deemed prudent to return to the settlement. Next day (2d April 1866) Mr Knight and a numerous body of armed men, composed of sailors and residents, proceeded to the house, where the mandarin, as agreed upon, met them, and sanctioned the demolition of the house. Sentries were stationed at various places, with instructions to keep guard, but on no account to take part in the razing of the house. Unfortunately, one or two enthusiastic sailors could not resist the temptation to assist in the work of destruction, and one madly took the butt-end of his gun, with which he knocked in a window-frame. In doing so, his rifle went off, and a comrade, who was immediately behind, was shot through both thighs. The house, principally built of mud, was soon levelled to the ground, and the wounded man was brought to me, a distance of two miles, in a springless waggon, by two or three of his companions.

Several of the foreigners were wounded by the firearms of the sword-racks. That several were not killed and others severely wounded, was due to the miserable character of the weapons brought to bear against them. As it was, two men were seriously injured by small-shot in the groin and knee respectively. In the first case, both testicles became very much swollen, associated with

considerable fever and abdominal pain, although there was no peritonitis. This patient was literally riddled from head to foot with small-shot; but, generally speaking, the shot, which was mostly triangular, only pierced the skin, and became lodged in the subcutaneous cellular tissue. Some of the shot travelled a great distance beneath the skin, and it took me at least two hours picking out those in this patient. He was confined to his bed for two weeks in consequence of the inflammation of the testicles. The other serious injury was that of the knee, but eventually it did well, and after a few weeks of rest this patient also was able to go about, with the disadvantage of a slight limp. Besides triangular shot, the sword-racks charge their guns with small stones and irregular pieces of metal, but the character of the wounds inflicted was indistinguishable from that of the ordinary round-shot in civil practice at home.

The poor man who was shot by a comrade while pulling down the sword-rack's house was a sailor (22 years of age), on board an American vessel, at that time in the port. He was therefore taken to the American consul's house, where I saw him. He told me the muzzle of the gun was within a foot of his thigh when it went off.

On examination under the influence of chloroform, I found the bullet had passed through the upper third of the left thigh-bone, and, in a slightly oblique direction, had passed through the soft parts posteriorly of the right thigh. The bullet was a large round one, but it seemed to have gone in a straight line through both thighs. The bone was fractured in two places—that is, a piece about an inch and a half long was broken off, and lay between the two extreme pieces of the shaft of the femur. Although this fragment was within the axis of the shaft of the femur, from the terrible force of the ball and the contused condition of the muscles, I considered there was no chance of saving the limb, and advised immediate amputation. Those interested in the man naturally felt anxious that his limb should be saved, and they all but insisted I should give the patient a chance of doing so. Under protest I submitted, but with no good result. After rallying from the shock the prostration was great, and this was soon increased by excessive discharge of pus. Indeed, the poor fellow seemed doomed to die from pyæmic poisoning, when I again, as a last chance of saving the man's life, proposed amputation. This time my proposal was accepted, and on the 27th April 1866 I amputated the thigh immediately below the trochanters by a long anterior flap. I was compelled to adopt the long posterior flap, as anteriorly the parts were so destroyed as to forbid any idea of using them for that purpose. All my assistants were amateurs, with the exception of Mr Knight, who had once before assisted me at an operation. It was impossible to apply the tourniquet, but Mr Knight's powerful grasp was as sufficient as any instrument to stem the bleeding

vessels. To him and his brother Mr Macpherson, the Commissioner of Customs, Mr Davenport, H.B.M. Consul Interpreter, and the Messrs Westerguard and Schöttles, I owe many thanks for their kind and intelligent assistance.

A small portion of the flap near where the bullet made its exit sloughed, but as the flap had been purposely made redundant, this very slightly affected the appearance of the stump. Six weeks after the operation, my patient was able to walk about a little by means of crutches. Twice after the stump was completely healed he got intoxicated, and fell with force against a stone, which cut through the flap down to the bone at right angles to the cicatrix. When I last saw him, the day on which he left this port for the south of China, he had a good stump, capable of bearing great pressure, and was himself in very good health. From a diagram which I saw in a late *Lancet*, where an artificial leg had been successfully applied to a stump after amputation at the hip-joint, I have no doubt my patient when he gets home will be equally well provided for and made comfortable.

Besides accidents from firearms, I have, since coming here, had in my practice several dislocations and fractures. The only one of these accidents, from its comparative rarity, of any interest, was that of dislocation of the wrist backwards. The man to whom the accident occurred was a sailor. While engaged on the rigging, he lost his balance and fell over the side of the vessel into a cargo-boat, which fortunately happened to be alongside at the time. He must have fallen from a height of about thirty feet. As far as I could make out, he fell on the palm of his hand. When I saw him the carpus lay distinctly in the posterior aspect of the radius. Due to the same fall there was a dislocation of the first phalanx of the middle finger backwards on the corresponding metacarpal bone of the same hand. Both dislocations were easily reduced. Afterwards a couple of splints were applied and retained for a week.

In my medical practice nothing of special interest has occurred. During the summer months, when our heat is great, there is a large amount of severe diarrhœa. But here the diarrhœa is due, not so much to the heat itself as to the chills which are often experienced, in consequence of the frequent and sudden occurrence of cool winds during our hottest weather. These winds are so pleasant, that people suffering from heat court rather than shun them. This kind of diarrhœa is often very severe, but is also quickly amenable to treatment. Stimulants in the form of brandy, chloroform or sulphuric ether, with the recumbent position, and one or two large doses of opium, generally quickly stop the diarrhœa. It is prevented by keeping out of the direct rays of the sun, by being moderately careful in diet, and by wearing a broad thick bandage round the lower part of the abdomen.

Syphilis in its several forms is a common disease in the East generally, and Newchwang is no exception to the rule. For the last

six months I have had the medical charge of a small detachment (28 men) of English marines, and I have been struck with the comparative readiness with which chancres and gonorrhœas are cured in them, compared with the time and difficulty experienced in obtaining the same result in sailors belonging to the merchant service and the lower classes. This is due quite as much, I think, to the absolute cleanliness, which in the former class it is easy to enforce, as to the fact that in them the disease is early detected and the patient confined to hospital. I make this remark, because I believe in private practice, amongst a class of patients where one seldom doubts that cleanliness will be observed, it is far from universal. To an ounce of the ordinary sulphate of zinc lotion or injection, the addition of one half grain of the permanganate of potass I have found very useful in the treatment of most gonorrhœas.

Sailors coming from the south of China suffering from ague often enter this port; but as I have nothing particular to say of this disease, except that it is invariably cured here—a consummation I believe due more to the climate than the treatment, which is that generally pursued—I bring these desultory notes to a close.

Part Second.

REVIEWS.

A Physician's Problems. By CHARLES ELAM, M.D., M.R.C.P.
London: Macmillan & Co.: 1869. 8vo, pp. 424.

THE problems detailed in this work do not belong to physic proper, but are such as are forced upon the attention of every one who thinks and reflects at all upon the history and destiny of mankind; they are not, therefore, specially “a physician’s problems,” though unquestionably they are more apt to be pondered over by a true physician than by others, because his study—“the noblest study of mankind”—is man in all his relations, mental and bodily. Each of these essays is complete in itself, and yet they form together a connected series, tracing the influence of various agents upon his mental and bodily health. Quite recently Dr Elam published a series of very sensational papers in a contemporary, entitled “Medicine, Disease, and Death,” in which, by statistical and other arguments, he endeavoured to show that we are systematically swindling our insurance offices by insuring at rates only applicable to the good old times of thirty odd years ago, when mercury and the lancet were triumphant, but very insufficient for these present days, when, from the increasing degeneracy of our race, and the inefficacy of our

physicians, the death-rate is annually increasing. Something, perhaps, may be made out of this argument in favour of those offices which have been so unfortunate as to fall victims to their miscalculations; the survivors, at any rate, ought to take heed in time. We merely mention these peculiar views, unquestionably based upon erroneous statistics, as a reason for desiring further proof of the certainly equally extraordinary statement, made with the utmost assurance at page 272, that, with "*very few exceptions*," all the six or eight upper wranglers for the last twenty years, and nearly all the double-first men, are still alive and well; while of two boats' crews of picked men, selected within the last few years, not one is now alive. The frightful mortality amongst boating-men thus hinted at is really dreadful to think of, and it would require a little more careful substantiation than Dr Elam has given it to enable us to accept it as efficiently illustrative of the antithetical character of brain-work *versus* body-work; of the conservative character of the former, the destructive character of the latter. A great deal of nonsense has been both talked and written on this point of late years, just as there has been in regard to man's food and drink. Man was formed to earn his bread by the sweat of his brow, and an undue neglect of exercise sufficient to duly promote the requisite tissue metamorphosis will be punished by increasing inability to use the limbs neglected, as well as by various forms of disease induced by so glaring an infraction of one of the most important of those laws upon which health depends. Notwithstanding the fancied conservative tendency of brain-work, it alone is as incapable of producing a perfect man as vegetarianism or teetotalism, in regard to which we may remember that it was as a punishment for his sins that Nebuchadnezzar was condemned to "eat grass as oxen," and under that regimen he very soon shuffled off every appearance of humanity; and we may also remember that it was Noah, a just man and perfect in his generations, who first "planted a vineyard, and drank of the wine thereof," and was in consequence drunken upon one occasion, as we are informed. The same propensity for the flesh-pots and slow poisons has distinguished all his posterity, and we may well believe that a great deal less harm results from them than some are desirous of making us believe; for though

"Gross riot treasures up a wealthy fund
Of plagues, yet more immedicable ills
Attend the lean extreme."

It is a most absurd and untenable doctrine to credit the lives of the senior wranglers to their brain-work, and the deaths of the boating-men to their training, even supposing the facts to be as Dr Elam states them. But it is also obvious, that in a matter which has so important a bearing upon the intellectual and material progress of mankind, no man's *ipse dixit* can be implicitly accepted; its value must first be ascertained by a careful sifting of all the facts upon which it is based; and they must therefore be so fully particularized

as to enable us to view them from every point, and test their value in every respect. On the whole, we esteem our author's conclusions as more valuable than his facts; at least, without accepting all of them, we may acknowledge our concurrence in the conviction, that though wet towels and green-tea may have caused the death of many a one besides Kirke White, brain-work proper is no more to be blamed for these sad disasters than body-work is to be for those which follow the sudden spurt daringly attempted by some unprepared athlete. Brain-work can, however, only be regarded in so far conservative of the bodily forces as the intellectual man, as a rule, maintains his body in greater subjection than the athlete, who too often alternates periods of vigorous abstinence with others of riotous excess. But to give an undue preponderance to brain-work or to body-work is alike subversive of humanity. In the one case, we have a Neander wallowing among his books, forgetful both of time and place, led by his sister to his lecture-room when the time arrived, and led home again when his lecture was over—a helpless intellectual imbecile, a pig fed to obesity upon recondite learning instead of acorns; in the other, we have a mere man-monkey like Blondin.

Man's body is given him for the development of his mind; in this world we have no knowledge of mind apart from material organization. If the organization be originally defective, or should it in any way acquire an unhealthy tone, the mind suffers with it; the limits of deviation are considerable, and, from the absence of any definite standard, are incapable of being rigidly laid down; but experience has taught us by innumerable heart-breaking instances, that a *corpus sanum* is indispensable to the possession of a *mens sana*. The laws of physiology, however, also teach us that a sound body is only to be attained by a proper attention to the laws of health, and a correct and relative apportioning of brain-work to muscle-work. To keep both body and mind in health each must be duly, and neither unduly, exercised. The one form of work is not truly conservative, the other not truly destructive; both may be made conservative, properly employed; both may be made destructive by improper use. We must also never forget that, besides intellect and muscle, we have also religious sentiments, which must be cultivated, if we would be true men; the neglect of these through over-devotion to intellectual pursuits, or from any other cause, may be fearfully avenged. To take but one instance: had the illustrious author of the "Old Red Sandstone," when he wrote those memorable words, "My brain is burning—I can bear life no longer!" only called to mind the words which have been beautifully paraphrased—

"Art thou languid, art thou weary,
Art thou sore distressed,
'Come to me,' saith One, 'and coming be at rest'"—

how different might have been his ending. Goethe, in arresting

the suicide of Faust by the sudden outburst of the Easter hymn, recognises the important influence of the religious sentiments even where not very carefully cultivated, in the very aspect to which we have just referred. And every true writer does the same: some of them, with Emerson, may regard it as simply a falling back upon the infinite when we feel the finite crumbling beneath us; but vaguely or more definitely all recognise, besides brain and muscle, certain sentiments, if we may call them so, which must be cultivated, to enable man nobly to brave the changes and chances of this mortal life, and which, rightly developed, are a great safeguard in this very question of brain *versus* muscle. In this essay the author is also careful to point out the misery and heart-sickness of deferred hope arising from men or women either devoting their lives to some trade or profession for which they have a great love, but neither mental capacity nor bodily skill sufficient for its proper carrying out. He refers chiefly to what are called the fine arts; but his remarks might be made to apply with tenfold force to our own profession—one too often adopted for any reason but the right one, and into the now open portals of which it is to be feared many women may be rushing, impelled by vague dreams of benefiting humanity, which they will find to be either impracticable, or impossible of realization by their means. Much of the trading spirit which is to be found in the profession arises from this very cause—the admission of those mentally unfit for its exercise. Singular to say, a brain defective on many points may be well qualified for accumulating wealth, but something more than that is requisite to make a truly useful physician.

In the first essay upon "Natural Heritage," a great many singular instances are given of the direct inheritance, both of physical conformation and of moral qualities, but no reference is made to that very singular and indirect mode of inheritance accounted for by the inoculative influence exerted by the fœtus in utero upon the maternal organism. It is questionable, or at least has not been ascertained, whether moral qualities can be so conveyed; but as these so often depend upon physical conformation, which is known to be thus influenced, we may believe that both body and mind may be thus altered. The facts regarding this peculiar inoculation have been very ably illustrated in our pages by Dr Alexander Harvey of Aberdeen, and have been abundantly confirmed by other observers. From them it appears that children so inoculate a mother with the peculiarities of their father, that even the children of a succeeding marriage receive the impress; nay, that even a child begotten out of an originally and still apparently healthy mother by a perfectly healthy father, may yet inherit the defects and diseases, and possibly the moral qualities, of a preceding spouse,—a state of matters which, when fully understood, ought to make a good many converts to Sam Weller's opinion as to widows. Our author quotes approvingly Holmes's (O. W.) statement that "There are people who

think that everything may be done, if the doer, be he educator or physician, be only called in season. No doubt,—but *in season* would often be a hundred or two years before the child was born; and people never send so early as that." But, in applying this, we think that, for a physician, he exhibits himself as more of a morbid anatomist than a therapist, and that, besides pointing out the defects and shortcomings of our forefathers, he might have very properly occupied some little space in teaching us our duties in relation to our descendants. He certainly does not consider past wrongs any palliation of present defects, and holds that, notwithstanding a very considerable heritage of evil, all are morally responsible, and all have it in their power to overcome the evil within them. "Life," he says, "to all is a warfare; to some it is much more severe than to others; but all *may* fight the good fight, and all may attain the reward." This is all very proper, but it is hardly enough for one who believes so strongly in natural heritage, and who dubs himself a physician. Ulloa, Tavis, and others, state that three or four generations are sufficient, when proper attention is paid, to make a white man black, or a negro white, and M. Serres distinctly asserts that a proper system of intermarriage will cause a degenerate race to return to the normal type. To marry for rank or wealth, even at the risk of almost certain impairment of the race, is a matter of daily occurrence, but how much less noble than to marry for health, which rank cannot bestow, nor wealth purchase. It is regarded as an object of legitimate ambition to marry for money to replace an ancient family in what is conventionally regarded as their proper position in the world. Ought it to be less an object of ambition to seek, by an infusion of healthy blood, to restore to a decaying family the health they have lost? The latter is surely the nobler and least selfish object. It is too late to reproach our ancestors of three centuries back; but it is not too late to do our part to avert the consequences of these old mistakes from our descendants; and it is more like a true physician to point out the remedy, and to show how it may be best applied, rather than pour forth an idle lamentation over evils already incurred, which it is our duty to overcome by endurance, or, still better, to remove by art if that be possible. There are five other essays upon similar subjects, all of them displaying a very considerable amount of information, and all written in an extremely pleasing and readable manner—perhaps we might say, all a little deficient in the practical application. And, besides these, we have two learned papers—one upon the Dæmon of Socrates, and the other upon the Amulet of Pascal, in which the author disproves the idea that Socrates was, as M. Lélut has more tersely than delicately put it, *un fou*; while he gives very strong reasons for believing that if Pascal was not, he was at least certainly influenced by delusions. The essays are extremely interesting, and form an agreeable interlude to more strictly professional studies; and we cordially recommend them to all who have the welfare of mankind at heart.

Scarlet Fever, otherwise called Scarlatina, and its Prevention. By FREDERICK SMITH, Esq. H. Cross : Malvern, 1869. Pp. 16.

THIS pamphlet has been called forth by local circumstances, but it contains many points of great general importance. Every now and then schools are thinned, families decimated, sometimes wholly swept away, by an outbreak of scarlet fever; while we have occasionally to mourn, from the same cause, the loss of some adult life just bursting into full blossom or already ripening its fruit. Yet how little care is taken to prevent the spread of a disease so dangerous and yet apparently so limitable. The manner in which one half of the world scouts at all precautions, almost to our mind justifies the superstitious terror with which the other half clings to everything that holds out even the slightest pretensions to being a preventive. Mr Smith, in this little pamphlet, concisely points out the duty of parents and guardians, the duty of nurses and of local authorities, and concludes with some practical suggestions to schoolmasters and others, with the view of preventing the spread of scarlatina. These suggestions are based, at least mainly, upon Dr Budd's plan of disinfection; but the author runs over various other assistant plans, and has produced a very readable pamphlet, the matter of which is very well known to the profession, but which we do not remember to have met with in a form so accessible and so easily understood by the general public. On their behalf, therefore, we welcome its appearance. It is just such a book as may be put with great benefit into the hands of an intelligent parent, on an outbreak of such a disease being threatened in his neighbourhood; and all schoolmasters ought to make themselves acquainted with the suggestions laid down in it, which are not impracticable, and which must produce a limitation of the disease. The great object of practical medicine is to limit the spread of disease, and one great object of such exertion—one which seems quite within the range even of our present powers—is the limitation and prevention of these zymotic diseases which carry off such hecatombs of our children, and impoverish the State by cutting down so many young adult heads of families, for these are mainly their victims. We trust, therefore, that the endeavour to spread correct knowledge upon this matter amongst the non-professional public, of which this little pamphlet is an instance, will receive that encouragement which the importance of its subject demands.

Clinical Notes on Diseases of the Larynx, investigated and treated with the Assistance of the Laryngoscope. By WILLIAM MARCET, M.D., F.R.S., etc.

WE have perused Dr Marcet's little volume with very considerable satisfaction. Within a comparatively small number of pages it contains a great deal of useful information. The author shows that he has not neglected the many opportunities presented to him of using the laryngoscope in the cases of patients who seek relief at the consumption hospital, and as the result of his experience he expresses his opinion on the subject of disease attacking the larynx distinctly and forcibly.

After some preliminary remarks, the work is divided into three parts. The first treats of laryngitis simplex, with a short list added thereto of the more useful instruments required in examining the larynx and treating its diseases. The second treats of hysterical and nervous aphonia, and the third of the tubercular affections of the same part.

Dr Marcet does not waste time in describing how the examination of this portion of the body is to be made, but truly states in his preliminary remarks that "the acquirement of skill in the art of laryngoscopy is the natural result of diligent perseverance in the use of the instrument, directed with intelligence." And again, "it is not so much by reading of the difficulties to be met with, and how they are overcome, as by acquiring the habit of finding out practically where the fault lies, that the present art is to be mastered."

The author had the good fortune of being allowed to examine the larynx of one of the famous Tyrolese singers who recently sang at St James's Hall, London, and has given his opinion on the position of the vocal chords in falsetto singing, which he saw "to be considerably shortened, and their edges tightly applied against each other," and he thinks "falsetto singing must be due to the action of the arytenoideus muscle, which, contracting more powerfully than usual, brings the arytenoid cartilages into mutual contact."

Among the several cases related is a very interesting one of aphasia, in a man, æt. 34, which came on after a "fit," he being quite well, with intellect and memory unimpaired, previous to the attack. Dr Marcet tried galvanism, with Smee's battery and an interrupted induction current, the negative electrode being placed on the back of the tongue and the positive on the nape of the neck," and found the case to improve greatly under the treatment—so much so, that the patient's speech recovered to a sufficient extent to allow of his making himself understood, having been previously quite unable to articulate.

Part third, or that on laryngeal phthisis, is the most important portion of the work, and will repay perusal.

As an aid to the diagnosis of some doubtful cases of phthisis, a

laryngoscopic examination is very important, as the author states, "If, in addition to the doubtful pulmonary symptoms as determined by auscultation and percussion, we find a certain degree of congestion, redness, or irritation of the larynx, together with the secretion of a whitish, mucous, and perhaps incipient tubercular granulation; these signs, which are only visible with the laryngoscope, will greatly assist towards forming a diagnosis;" and if the throat symptoms have lasted for some length of time, their meaning is unmistakable.

Tubercular disease of the larynx he divides into three different forms, running their course individually without, as a rule, merging into each other: the first, the thickened, indurated form, which may end with softening; the second, the ulcerated form; and the third, which is characterized by vegetation.

Unfortunately, in this disease, as in many others, as yet our powers of diagnosis exceed those of successful treatment, but still we have here pointed out the method by which we may mitigate our patient's suffering—a matter of great importance. We are correctly told that our treatment should be directed principally to the general condition of the body—tonics, preparations of iron, phosphoric acid, and cod-liver oil, being the chief means to be employed. At the same time, topical medication should not be neglected; and we can corroborate Dr Marcet's statement, that the application of croton-oil liniment over the larynx externally, is often followed by relief and improvement.

A good many cases are related in full under their respective heads, and a few good illustrations, coloured or not, are interspersed among the pages of the work.

Essentials of the Principles and Practice of Medicine. A Handy Book for Students and Practitioners. By HENRY HARTSHORNE, M.D., Professor of Hygiene in the University of Pennsylvania, etc., etc. Philadelphia: Henry C. Lea: 1867. 8vo, pp. 417.

To quote from the preface—"This manual is an unambitious effort to make useful the experience of twenty years of private and hospital practice, with its attendant study and reflection." To this is added: "Whatever defects the book may have, the author does not concede that it is necessarily a *fault* that it is *small*." Now, there can be no doubt that the longer a man has been about a thing, and the more accurate the knowledge of it he possesses, so much the more likely is he to be able to describe the facts concerning it tersely, and in the fewest possible words; in this way the smallness of a book may be an index of one of its greatest merits. When smallness is, however, attained, not so much by conciseness and terseness of description as by the omission of necessary par-

ticulars, then it is no longer an indication of merit, but of the reverse. And while this is the case with all books which profess to convey information, it applies with tenfold force to such as are intended for the instruction of students. Surely, never before was it attempted to produce a complete history of medical science, a treatise on general pathology, on practice of medicine, and on therapeutics, all within the space of no more than 417 pages. And it is considerably to the credit of Dr Hartshorne that, under these circumstances, he has produced a work which is so readable, and on the whole so accurate. For the student, whether tyro or advanced, it is, however, quite unsuited, from the meagreness of the description of the various diseases; from the imperfection of the differential diagnosis; and from the harsh baldness of the therapeutical portion, which too often consists of but a string of names. On the other hand, the busy practitioner already intimately acquainted with the subject may find in its pages the names of remedies, or hints as to points of interest which had escaped his memory; and to him, therefore, it may at times prove indeed a handy book. To justify what we have stated, after going over the book carefully, we again turn to it, and opening it at random, we read at page 135, that *Laryngismus stridulus* is "an infantile affection, consisting in spasmodic closure of the glottis, causing a stridulous or shrill whistling respiration. It is most apt to occur during dentition, but is not very common. Its onset is sudden, and duration brief. Though exceedingly alarming, it is seldom fatal;" and that is all, the paragraph on the treatment being equally brief and dogmatic, and not more correct. Opening the book again at page 219, we read as to the differential diagnosis between gout and rheumatism: "In gout, the small joints are chiefly affected; in rheumatism, the large joints. Repetition of attacks is much more frequent in gout; their duration is greater in rheumatism. In gout, the heart is seldom attacked, and *spasmodically*; in rheumatism, the heart is often subject to *inflammation*. In gout, the stomach is sometimes spasmodically affected with violent symptoms; in rheumatism, almost never, although the bowels may be. In gout, and not in rheumatism, uric acid (or urate of soda) is in excess in the blood. In pure gout, colchicum generally does good; in pure rheumatism, hardly ever." All these are points of interest, and to be remembered, but none of them of any primary importance in making a differential diagnosis in an acute attack of either disease, except the uric acid test, which we are not told how to apply, and which is not so readily available as certain symptoms perceptible at a glance, such as the great amount of constitutional disturbance in proportion to the local affection, and the copious perspiration with its usual acrid odour, both of which are so diagnostic of rheumatism as to render it unnecessary to ascertain the absence of uric acid from the serum of the blood, while their absence, though not so certainly characteristic of gout, yet leads us at once to look for other symptoms of that disease, among which the presence of

uric acid in the blood is the most distinctive. These quotations taken at random, forming, however, fair samples of the work, seem quite sufficient to justify the opinion we have already expressed.

A Dictionary of Materia Medica and Therapeutics. By ADOLPH WAHLTUCH, M.D., L.C.P. Lond. London: John Churchill & Sons: 1868. Pp.* 484.

THIS work contains in parallel columns the following information in regard to the drugs specified in the British Pharmacopœia of 1867:—1st, The names and various synonymes of the drugs in Latin, English, French, Italian, German, and Russian; 2d, Their character and properties or composition; 3d, Their physiological effects and therapeutics; 4th, The forms and doses of the various preparations, with information as to the mode of administration, both as to the older forms of pill and powder, and the newer ones of atomized spray and hypodermic injections; 5th, The various preparations into which each drug enters; and, 6th, Over a thousand prescriptions selected from the formulas of the most eminent British and foreign physicians, with the name of the disease for which they have been employed. The work is well supplied with indices, tables for regulating the doses as to the age according to Hufeland, Gaubius, and Young, and is a complete compendium of readily available information in relation to all the drugs mentioned in the British Pharmacopœia of 1867. It is solely a work of reference, and as such seems well calculated to be useful in saving the time of the profession, besides being extremely useful to those who may be reading foreign works of medicine, or to druggists and others who may have to interpret foreign prescriptions. The author seems to have done his work with diligence and care, and we hope he will receive sufficient encouragement to induce him to favour us with the future volume he has, in such a case, promised us in regard to the non-officinal drugs, some of which are of very great importance—mineral waters, poisons, and dietetics—as this could not fail to add very considerably to the value of his labours.

Medicine in Modern Times; or, Discourses delivered at a Meeting of the British Medical Association at Oxford. By Dr STOKES, Dr ACLAND, Professor ROLLESTON, Rev. Professor HAUGHTON, and Dr GULL; with a *Report on Mercury*, by Dr HUGHES BENNETT. London: M'Millan & Co.: 1869. Pp. 255.

THIS work contains a series of most interesting addresses delivered in August last year at Oxford before the members of the British Medi-

cal Association and their visitors from foreign countries. These essays are very instructive as to the lines in which modern medical thought is advancing, and for those who can look back, however faintly, even one quarter of a century, the retrospect is extremely encouraging as to the future of our science. Popular though to a certain extent these essays are, there is not one of them that does not display a precision of statement and a breadth and comprehensiveness of thought which cannot fail to be duly appreciated, and which is specially refreshing as coming from Oxford, where, though science has been nominally taught for more than seven centuries, it is only within the last few years that that term has been understood to include more than logic, metaphysics, and ethics; and where even yet an attempt is made to distinguish between mental and physical science, by nominally connecting the former alone with philosophy, the latter alone with science—as if philosophy did not comprise both subjects, as if both subjects must not first be objects of science before they can become branches of philosophy. It is somewhat singular that Scotchmen should never have a doubt about this, and talk of natural or physical and mental philosophy, and natural and mental science, without the slightest misgiving as to their being branches of one philosophy, which require to be united to make a perfect whole,—distinct segments, which require to be fitted-in to make a perfect circle of the sciences. And yet Scotchmen have no proper idea of a University as a place, as Mr Mill has put it, solely intended for the formation of capable and cultivated human beings, apart from the idea of its being a place for professional education. To prove this, it is not necessary to give special examples—the fact is only too well known—and to a certain extent it exercises an injurious influence upon the progress of science in our part of Britain, examples of which it is equally unnecessary to specify. It is all the more honourable to Scotchmen that, with their limited experience of University teaching, they should yet have such broad and comprehensive ideas of what ought to be its subject—ideas which, in all their breadth, even Oxford, after nearly a thousand years of University life, is only now beginning to entertain. In his valedictory address, Dr Stokes, the retiring president, has incidentally touched upon a subject of very considerable importance to our profession, and has put it in such a way as to bring it home to each one of us. It is well known that, as a profession, we have sundry grievances, and that after long and wearisome agitation we obtained a Medical Act, which was to remove these, and a General Medical Council to superintend the working of that Act. It is equally well known that both Act and Council have failed to remedy these grievances, and that a fresh agitation is even now commenced to amend them both. The history of the past is, however, a warning to us not to trust to future legislation. What ought we, then, to do to place medicine in its true position, and secure for it its due weight in the Councils of our country? We ought not, certainly,

to work, says Dr Stokes (and we agree with him), by public agitation, by remonstrances addressed to unwilling ears, by urgent demands for class legislation, nor, in short, by calling ever so loudly on our legislative Jupiter, but, by putting our own shoulder to the wheel, by one and all endeavouring to place medicine in the hierarchy of the sciences, in the vanguard of human progress, eliminating from it every influence that can lower it, day by day developing more and more the professional principle, and fostering all that can elevate its moral, literary, and scientific character. When this shall have become our rule of action, the full tide of public esteem and respect will surely lift the profession high over these obstacles against which it now grinds and chafes. In this way only can we safely gain the ends we aim at, and for this object each one amongst us can labour in his own sphere with single-hearted energy and zeal, while our united action should be directed towards widening the basis upon which medicine is reared, by extending the preliminary general training of those minds who seek to join our philanthropic labours. For it is only in proportion as we impress upon them the love of knowledge and of truth for their own sakes, the greatness of man's needs, and the corresponding greatness of our duties, with a just sense of the limited nature of our own powers, and the short period during which we can exercise them, that we shall imbue them with that deeply-moving sense of the great importance of the profession they have adopted, which is certain to secure the objects we aim at, and which is too often frittered away and altogether lost in a special education, however full, which is too often regarded as a mere trade speculation.

Dr Acland's essay on the General Relations of Medicine in Modern Times is both thoughtful and philosophic; he reviews these relations in regard to the progress of science and the fluctuations of humanity, touching, cursorily of course, upon the various points of science which affect us more or less closely, and the intimate connexion which subsists between medicine and the sufferings and sorrows, both physical and mental, of mankind. Tempting though the whole subject is, we must pass it by, only shortly referring to one of the relations of modern medicine to which Dr Acland has referred, the relation to spiritual beliefs. And we refer to it specially, because it is a difficult subject, one which an over-prudent man would pass by through fear of entangling himself in that maze of angry—and we may add unlearned—controversy which fills the world. Yet it is a subject which cannot be avoided, and Dr Acland has handled it in a singularly delicate, yet masterly manner. He shows that the reproach of the old aphorism, "*Ubi tres medici, ibi duo athei*," lives still, but that it does not arise because medical men are less religious than the average of the society in which they live, but because they rarely mingle with the religious questions of the day, almost never are fanatical, and rarely even enthusiastic in their religion. Calm, earnest men, they stand aloof from religious dis-

cussion, partly from self-interest, partly from usage, but partly also for a deeper reason, which, as Dr Acland says, religious teachers would do well to lay to heart. It is this, that to none is revealed so much of the real nature of man, its various phenomena, conditions, pains, and privileges. The physician can trace the various bodily and mental relations of man to other organized forms; he sees the connexion subsisting between organic structure and mental function, and the modifying influence exerted on both by hereditary or acquired disease, as well as by all the various circumstances of race or position in life, as modified by want or luxury. He who knows all this, and much more, which forms part of a physician's daily experience, can never be either a bigot or a fanatic; he may hold fast his own belief amid many trying circumstances, but he will be the last man to condemn others for thinking differently; and though his soul may yearn over a fellow-man calmly listening to the measured tread of death's approaching footsteps, doubtful whether to him he brings annihilation or what else, yet he knows that there are better modes of gaining even him than by throwing on his comrade's deathbed the apple of religious discord.

It would take up too much space to go over the many very interesting points contained in the other essays, which are all worthy of their authors, and of the occasion upon which they were delivered. Where all are so good, it seems invidious to particularize one; but Professor Haughton takes up so novel a subject, and handles it in so interesting a manner, as to make it specially interesting; and yet we have an objection to urge to one part of it. In describing the peculiarities of typhus, in the note at p. 142, he says that the risk to life in typhus is directly proportioned to the rise of temperature, and also, "The effects of alcohol, administered in fever, when the temperature does not exceed 105° F., are twofold—immediate and secondary. The immediate effect is to supply a hydrocarbon to the blood, which is decomposed by it in preference to the body-tissues. The secondary effect of alcohol is to change the blood itself, which thus loses its oxidizing qualities; in consequence of which the temperature falls, the hyperdierotic character of the pulse disappears, and the destructive metamorphose of the tissues becomes lessened." This theory of the action of alcohol in typhus, which Professor Haughton states is borne out by clinical experience, is one which would lead to the adoption of the administration of alcohol as a cure for typhus—a doctrine utterly opposed to all our best modern experience. Nowhere has a smaller mortality in typhus been secured, and nowhere has there been a smaller expenditure of alcohol in its treatment, than in the Glasgow Fever Hospital; and this experience is not confined to that hospital alone: in the Glasgow Infirmary, and in the Edinburgh one also, alcoholic stimulants are not regarded as necessary or even useful adjuvants, except under certain circumstances, in the treatment of typhus. One great result obtained from these new views has been

a very much lessened expense in the treatment of fever, a much less complicated and purer type of fever, which seems to run its course in a shorter time, and to have a smaller mortality. These are, however, points not yet definitely settled. But we have this peculiarity frequently exhibited, that a falling temperature is raised by the administration of alcohol; and it is in such cases that the benefits derived from alcohol are most strikingly shown, many patients being under such circumstances snatched from the jaws of death; in them the falling temperature is conjoined with a pulse failing in strength, but rising in rapidity; and the rise in temperature induced by the alcohol coincides with a fall in the pulse, and an increase in its strength. True or not true, Professor Haughton's theory of the action of alcohol in typhus is not a trustworthy guide to treatment; alcohol is in no respect an antidote to typhus, and its chemical actions are of no therapeutic value, except in so far as they contribute to its stimulant, and perhaps to its nutritive action also; which last, however, holds but a very subordinate place. The last paper of all by Dr Hughes Bennett, on the Action of Mercury on the Biliary Secretion, is a very important one. It is true, it upsets all our preconceived ideas as to the action of mercury on the liver, and is diametrically opposed to the experience of most of us in regard to its practical use where the bile seems to be defective. But it opens up entirely new views as to the action of a most important remedy, and gives a novel explanation of the relief obtained from its use in certain cases. In thus altering our views of the mode of relief in these cases, it reveals the possibility of obtaining similar results by other and less treacherous remedies; and one result of proving that our so-called cholagogue remedies do not act in that way, may be to introduce into practice a new set of remedies, which may give the same relief without the same pretensions, and, if we take mercury as the type, without the same risks—risks by no means proportionate to the dose, and which in certain constitutions are actually poisonous.

A Text-Book of Practical Medicine, with particular reference to Physiology and Pathological Anatomy. By DR FELIX VON NIEMEYER. Translated from the Seventh German Edition, by permission of the Author, by GEORGE H. HUMPHREYS, M.D., and CHARLES E. HACKLEY, M.D. New York: D. Appleton & Co. London: Trübner & Co.

NIEMEYER'S Practical Medicine has been for some years the popular text-book in Germany. It occupies at the Medical Schools, and with young practitioners, the same place that in our own country is filled by the similar treatises of Watson, Aitken, Tanner, and Flint. In ten years, the German work has passed through seven large editions, and it has been translated into most Conti-

mental languages. It is satisfactory to add, that this popularity is merited. Like all text-books, Niemeyer's is of course mainly a compilation; but it is a compilation thoroughly well done, and it is something more. The author is an accomplished pathologist and practical physician. He is not only capable of appreciating the new discoveries (perhaps indeed rather partial to them), which during these ten years have been unusually numerous and important in scientific and practical medicine; but by his clinical experience he can put these new views to a practical test, and give a judgment regarding them. His book consequently has an individual authority which gives both a greater interest and uniformity to the manner in which the subjects are treated, and adds weight to the opinions which he advances or advocates. Moreover, although strictly scientific in his modes of thought, and in his study of disease—founding his practical medicine on physiology and pathology—Niemeyer is not a sceptic in his therapeutics. He regards an enlightened empiricism as capable of being combined with, or indeed as properly resulting from, a scientific pathology, and a scrupulously accurate clinical observation. There can be no doubt that this practical tendency has made his book generally acceptable. We can therefore thoroughly recommend Niemeyer's work. In particular, it will be found of great use as a compendious exposition of the views, especially the more advanced views, which are at present held in Germany, in pathology and medicine.

The American translators have, on the whole, done their task well. We think the profession is greatly indebted to them for rendering accessible so useful a text-book. It is quite true that we already have excellent works of a like kind in our own country. But good text-books cannot yet be said to be too numerous. We regard it of great importance that the current views entertained in foreign countries should be widely diffused in our own. Text-books afford a ready means of doing so. We only wish that all the leading Continental works could find translators. It retards medical science when information is locked up in a foreign language. There would be less plagiarism, fewer disputes about priority, and more originality and real progress, if good translations were more common than they are.

It is unnecessary to notice the work at length; but we may, by way of example, direct the reader's attention to Niemeyer's views on Consumption and Tuberculosis, in regard to which, as is well known, he has adopted and powerfully advocated the pathological distinctions introduced by Virchow, which are at present, in connexion with the inoculation experiments, exciting special interest:—

“TUBERCULOSIS OF THE LUNG.—The term pulmonary tuberculosis continues to be the expression most commonly used to signify consumption of the lungs, a proof that the majority of modern physicians and clinical teachers still adhere to the teachings of Laennec, and only recognise one form of pulmonary consumption, the tuberculous form. I have long contested this doctrine, and, upon various occasions, have declared, in direct contradiction to it,

that destruction of the pulmonary tissues, the establishment of cavities and consumption of the lung, are much more frequently a result of chronic inflammation than of tubercular deposit. And I hope that these views, of whose justness any one may easily satisfy himself who will only study the subject with calmness and without prejudice, will ultimately obtain general acceptance.

"The error into which Laennec and his disciples have fallen is not that they regard tubercle as a neoplasm, but that they look upon solidifications of the lung, due to entirely different causes, as products of tuberculosis. Even according to modern views tubercle still ranks among the pathological neoplasms, although, however, but one form, the *miliary* form, and one mode of origin, *miliary* tuberculosis, is recognised. It is one of the characteristics of tubercle, that it always appears in the form of small nodules, scarcely as large as a millet-seed, and that the individual nodules never grow into voluminous tumours. The larger so-called tubercular nodules consist always of an aggregation of many small miliary tubercles. All the extensive indurations and enlargements formerly described as *tuberculous infiltration*, or as *infiltrated tubercle*, depend neither upon infiltration of the tissues with tubercular matter, nor upon diffuse development of tubercle, but upon morbid processes of a different nature.

"In the lungs it is more especially the residue of chronic inflammation which Laennec and his pupils have regarded as tubercular infiltration. The main source of their error was the idea that *caseous metamorphosis*, to which tubercle of long standing almost invariably is subjected, was a specific peculiarity of the disease, and that it might be regarded as a diagnostic mark, by which the tuberculous nature of a growth, wherein the process arose, might be determined. According to such views, the product of chronic pneumonia, which often appears in phthisical lungs independent of tubercle, was ascribable to tuberculosis, since, generally speaking, this inflammatory product at first is moist, transparent, and of a grayish-red colour, and, after a lapse of time, becomes transformed into dry, opaque, yellow, cheesy masses, and, subsequently, into a creamy or curdy, flocculent liquid ('tubercular' pus).

"But the point of view, from which caseous metamorphosis was considered a characteristic sign of tuberculosis, is obsolete. It is well established that not only tubercle, but many other formations with which it has nothing in common—such as old cancerous nodules, lymphatic glands enlarged by hyperplastic cell-growth, hæmorrhagic infarctions, encapsulated collections of pus—may all undergo caseous metamorphosis, and the term tuberculization, which has been productive of great confusion, and against which I have long protested, has fallen into disuse.

"Although the consolidation and destruction of the pulmonary tissue in consumption is mainly a result of inflammation, yet the frequent coexistence in phthisical lungs of the products of chronic pneumonia and tubercle renders it improbable that the presence of the latter should be purely accidental, and suggests a causative connection between tubercle and the inflammatory lesions. According to the common opinion, this connexion is, that tuberculosis is the primary affection, to which the pneumonic process is secondary and dependent. It cannot be denied that this view is right in certain cases; in a great majority of instances, however, the converse is true—the tuberculosis supervening as a secondary process upon a pre-existing pneumonia. It is, indeed, rare for tubercles to form in a lung which does not contain products of chronic inflammation."

We need scarcely say that these views require further investigation; but, for years past, pathological inquiry has tended in that direction. Our readers will notice, that they are in some respects a return to the views of older pathologists.

In conclusion, we would refer to the chapter on Syphilis, in which the modern views of the duality of poisons is adopted:—

"Of late years the study of syphilis has undergone a complete revolution, and the new doctrines have been adopted with remarkable readiness by almost all prominent writers upon the subject, even by those who a few years ago were their most zealous opponents. In previous editions of this work I have expressed a disbelief in the ancient views, according to which inoculation by one and the same poison at one time acts locally, and at another induces infection and disorder of the entire system; and I there declared my preference for the modern theory, according to which there are two poisons, one of which merely induces local disease, namely, an ulcer at the point of inoculation, accompanied in some instances by inflammation and suppuration of the neighbouring lymphatic glands; while the other always gives rise to constitutional disorder, with extensive derangement of nutrition. At that time, however, I did not declare myself so unreservedly in favour of the doctrine of the duplicity of the virus (or duality, to use another common expression) as I now do," etc., etc.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION XLVIII.—MEETING X.

Wednesday, 2d June 1869.—Dr HALLIDAY DOUGLAS, *Vice-President*, in the Chair.

I. OBSTRUCTED CORONARY ARTERIES.—*Dr Sanders* exhibited a slightly fatty hypertrophied heart with incompetent mitral valves and obstructed coronary arteries. The affection of the coronary arteries was suspected during life.

II. CYSTIC HYPERTROPHY OF KIDNEYS.—*Dr Sanders* also showed two kidneys, both of which greatly enlarged, weighing each upwards of a pound, and almost entirely converted into cysts. They were almost identical with those figured by Rayer, as *dégénérescence encystée générale*.

III. *Dr Halliday Douglas* exhibited THE LUNGS AND KIDNEY removed from a case of tubercular disease. Diffuse miliary deposit was found in the upper part of the lungs. The patient, a postman, continued at his work till twenty-five days before his death, and only exhibited symptoms of tuberculosis during the last eight or ten days. Tubercular deposit was also found at the base of the brain.

IV. *Dr Watson* exhibited a SIMPLE OSTEOMATOUS TUMOUR he had removed from the lower jaw of a young woman.

V. *Dr Watson* also showed a specimen of AN APPLICATION FOR CANCER, which he had obtained from a patient affected with epithelioma of the lower lip, with great enlargement of the glands, who had employed it on the recommendation of a shepherd. The patient died of hæmorrhage after its use.

VI. *Mr Annandale* showed a good specimen of GLANDULO-PROLIFEROUS TUMOUR OF THE MAMMA, which he had successfully removed.

VII. *Mr Annandale* also showed a BOOT FOR THE CURE OF TALIPES, a modification of one formerly exhibited.

VIII. *Dr Chiene* showed a dried PREPARATION OF A DOUBLE HERNIA which

had been the subject of a communication at a former meeting of the Society, published at p. 784 of this Journal for March 1869.

IX. *Dr Chiene* also showed a portion of a skull, exhibiting a FRACTURE OF THE FRONTAL BONE, the result of the pressure of a cancerous tumour in the orbit.

X. *Dr Chiene* also showed a specimen of SYPHILITIC ULCERATION OF THE HARD PALATE.

XI. *Dr Aitken* introduced a patient, a woman aged 23, the subject of ADDISON'S DISEASE. The bronzing of the skin was well marked, but confined to the face, hands, and feet. The blood was loaded with white corpuscles.

XII. *Dr Gillespie* narrated a case of RESECTION OF THE KNEE-JOINT, with fibrous ankylosis, and exhibited a preparation of the parts. Amputation was necessitated by the great mobility of the limb from want of bony union.

Drs Watson and Joseph Bell made a few remarks upon the case.

XIII. *Mr Amundale* read a paper on the successful REMOVAL OF A CALCULUS FROM THE KIDNEY, with observations of the operation of nephrotomy, which will be found at p. 21.

Considerable discussion followed regarding the justifiableness of operating where the existence of a calculus in the kidney or its pelvis was merely suspected, but when positive proof was wanting, in which *Drs P. H. Watson, Joseph Bell, Argyll Robertson, Chiene, Sanders, Gillespie, and A. G. Miller* took part. *Dr Sanders* suggested that when the pelvis of a kidney was completely occupied by a calculus, which could not be removed without considerable laceration of the ureter and kidney, it might be better to excise the whole of the kidney.

SESSION XLVIII.—MEETING XI.

Wednesday, 7th July 1869.—*Dr Omond, President*, in the Chair.

I. *Dr P. H. Watson* introduced a patient on whom the operation for the REMOVAL OF THE SCAPULA, CLAVICLE, AND ARM, had been successfully performed.

II. *Dr Watson* also showed THREE SPECIMENS OF CALCULUS VESICÆ REMOVED SUCCESSFULLY BY LITHOTRITY, each being effected at a single operation.

1. Phosphate of lime and uric acid, consisting of several small calculi broken up.

2. Oxalate of lime and phosphates very tough and difficult to crush.

3. Uric acid easily crushed.

III. PARTS REMOVED IN A CASE OF EXCISION OF THE ANKLE.—The operation was performed for scrofulous disease, which had gone on for months, and had terminated in suppuration. The abscesses had been opened antiseptically, but as the discharge progressively increased, and great tension and pain ensued, the operation was resorted to to afford relief. The operation was performed by a single incision on the outer side of the ankle.

IV. EXCISION OF THE WRIST AND CARPUS, on account of scrofulous disease of the synovial membranes, which had terminated in suppuration. The operation was performed by a single dorsal (linear) incision, which afforded ample space for the removal of all that was shown, which included the articular surfaces of the radius and ulna, the entire carpus, and the basis of the metacarpal bones.

V. THE PARTS REMOVED FROM THREE CASES OF DISEASE OF THE KNEE-JOINT, where excision was practised. These operations were all performed in the cases of young children; all were doing well.

VI. THE PARTS REMOVED IN TWO CASES OF EXCISION OF THE ELBOW—

JOINT. In both, suppuration had taken place. One, the case of a child, had discharged pus for months; the other, the case of a young woman, the abscess was unopened. In the latter case, the operation was performed subperiostally, and the triceps was left attached to the periosteum of the ulna.

VII. TWO CASES OF PIROGOFF'S AMPUTATION. *Dr Watson* remarked that this operation had not been abandoned by its illustrious inventor in favour of Mr Syme's amputation at the ankle. Pirogoff had abandoned it simply because he had ceased to operate. In the young patient, the operation was followed by the most careful employment of antiseptic dressings. Within twenty-four hours, in spite of these means, diffuse osteomyelitis of the tibia set in, necessitating amputation at the knee-joint. *Dr Watson* remarked that, although the antiseptic dressings at a point nearest the aspect where air could gain access to the stump were quite sweet, the interior of the stump was stinking; and on laying open the limb and cutting up the bone, the whole of the purulent results were equally noisome.

In the other case of amputation by Pirogoff's amputation, the progress of matters had been quite satisfactory, although throughout there was abundant suppuration. Antiseptic treatment was stringently adopted in this case as in the former.

VIII. CASE OF EXCISION OF THE HEAD OF THE HUMERUS, on account of disease in the shoulder-joint resulting from a sprain, terminating in suppuration within the capsule. The evacuation of the abscess, with antiseptic precautions, afforded temporary relief. The copious discharge gave rise to so much exhaustion that there was an obvious necessity for some operative measure to give relief. The parts, although carefully treated by means of antiseptic dressings, suppurated copiously.

IX. *Dr Joseph Bell* read a communication ON THE STATISTICS OF FEMORAL HERNIA, which will be found at p. 141. *Dr Gillespie*, *Dr Aitken*, and *Dr Rogers* (from America) made a few remarks on the subject.

X. *Dr Jessop* read a case of THE SUCCESSFUL EMPLOYMENT OF THE SYLVESTER METHOD OF INDUCING ARTIFICIAL RESPIRATION, which will be found at p. 204. *Dr Aitken* made a few remarks.

XI. *Dr P. H. Watson* narrated a case of SUCCESSFUL AMPUTATION OF THE SCAPULA, CLAVICLE, AND ARM, which will be found at p. 124. *Drs Bell*, *Gillespie*, and *Sanders* made remarks.

XII. *Dr Gillespie* exhibited casts of the limb of a patient, from whom AN EXOSTOSIS OF THE FIBULA had been removed. The casts showed well the appearance of the limb before and after the operation. The tibia having been subsequently almost entirely absorbed, the fibula seeming to be the main support of the limb.

Part Fourth.

PERISCOPE.

MEDICINE.

UPON HYPODERMIC INJECTIONS OF ERGOTIN IN ANEURISM.

BY VON LANGENBECK.

THE *secale cornutum* has been long employed in midwifery for producing uterine contractions, and thereby checking uterine hæmorrhage; it has also been for long successfully employed in nasal and pulmonary hæmorrhage. Quite re-

cently Eulenburg has employed the hypodermic injection of ergotin in pertussis for its alleged narcotic properties. He observed that injections of 1-18th to 1-9th of a grain produced a considerable diminution of the paroxysms, and occasionally vomiting. Drasche has also recently employed the subcutaneous injection of ergotin in pulmonary hæmorrhage, and asserts that it *instantly* arrests the bleeding, and this assertion is so far confirmed by Von Gräfe, that he states that several years ago a nurse in his clinique was seized with so obstinate and severe an attack of hæmorrhage from the lungs as to resist every treatment employed, that he then injected ergotin hypodermically, and from that moment there was no more hæmorrhage. Langenbeck has also employed it in cases of hæmorrhage, and seemingly with benefit, though from compression having been simultaneously employed, the exact amount of good derived from the ergotin was not very readily ascertained. But in the treatment of aneurism by the hypodermic injection of ergotin, Langenbeck has certainly attained most wonderful results. He was led to employ it in these cases from the consideration that its action on the uterus and on the arteries was identical, and consisted in inducing contraction of the inorganic muscular fibres, and he hoped to diminish the aneurism by promoting the contraction of the muscular fibres scattered over it. The first case was that of a man, aged 45, short and tolerably strongly built, the father of several children, and always previously healthy. In the early summer of 1864 he began to have pains in the right arm, which shot down the arm from the shoulder and side of the neck; they were thought to be rheumatic, and were treated by sulphur baths without benefit. The pains increased, and began to deprive him of sleep; his arm became weaker. In September, when standing by chance before a mirror one morning, the patient observed a swelling on the right side of the neck, which distinctly pulsated. In October he went to Berlin, and was examined by Langenbeck, who found a pulsatile swelling the size of a pigeon's egg in the fossa supraclavicularis of the right side. The pulsations could be traced inwards through the fossa triangularis to the throat—a proof that, besides the aneurismal swelling, the whole of the subclavian and also the innominate were dilated. The heart's action was normal, but feebler than usual in so powerful a man; its sounds were normal, and there were no *bruits*. Over the aneurism a blowing murmur was heard extending down to the innominate. The right radial pulse was stronger than the left, but somewhat retarded, a well-known and frequently-observed phenomenon. The aneurism pulsated very strongly, and the pain in the arm was productive of great anguish to the patient. Brasdor's operation in such cases is usually unfortunate in its results, and Langenbeck did not think proper to employ it in this case. He therefore applied over the aneurismal sac *moxæ* of *charta chromata*, as recommended by Jacobson of Copenhagen. From the commencement of October to December 1864, at intervals of three or four weeks, four large *moxæ* were applied, which produced a copious and persistent suppuration. This treatment gave the patient great relief; the pain had almost entirely ceased, only now and then a slight twitch in the arm was felt, and in the beginning of January he returned home. From January 1865 till the summer of 1868 he remained well, and could go about his business as formerly; the aneurism had become smaller, but still existed, pulsating distinctly, but productive of no inconvenience. He returned occasionally to Berlin to exhibit himself. Last summer (1868) the patient was at Misdroy for sea-bathing. It was very hot, and to this heat the patient ascribed a relapse which then took place; the swelling increased, the pulsations became stronger, the pains recurred, the arm became weaker, and the patient sleepless. This state of matters tending to the worse continued up to January 1869, when the patient returned to Berlin. At that time the aneurism had become considerably larger, this increase in size having taken place only recently as the patient supposed. It projected above the clavicle as large as the closed fist. The pulsations were so forcible that when the aneurism was grasped it seemed as if about to burst. The pulsation was also very evident beneath the clavicle, so that the innominate must have been considerably dilated. When the patient

walked about the pulsations could occasionally be recognised by the strong rhythmical succussions of the head. The sterno-cleido-mastoid and the region of the triangular fossa projected globularly, the throat overlapped by the tumour, the pulse in the right carotid could not be felt, and that in the right temporal artery was also absent. The patient complained that for months past he could not sleep on account of the violent pain in the right arm; he could not lie down, but had to sit up in bed, with his body bent to the right, and even in this position he was only able to obtain broken snatches of sleep. The increasing feebleness of the right hand gave him special uneasiness. Since summer he had been unable to write or even sign his name from complete inability to hold a pen between his thumb and index-finger. His hand was greatly wasted, as in muscular atrophy, and the spaces betwixt the metacarpal bones, especially those of the thumb and index-finger, quite fallen in; the movements of the fingers were extensively defective; the flexors of the fingers were quite paralyzed, as were also the small muscles of the hand and thumb. Sensation was diminished in the course of the ulnar nerve, so that on the fifth finger there was partial anæsthesia. The distal phalanges of the fingers were swollen (clubbed), and this he alleged had taken place only since the increase in size of the aneurism. On the 6th of January the first hypodermic injection was made, consisting of about half a grain (0.03) of the watery extract of *secale cornutum*. This injection, as well as all the subsequent ones, was introduced directly beneath the skin covering the aneurism, between eleven and twelve o'clock forenoon. Next morning, when the patient was visited, he expressed himself as much pleased with having slept comfortably the whole night; he supposed the injection had been used for this end. After the second injection the patient could sleep lying on his back, and the pains in the right arm were much lessened. The aneurism seemed to feel softer, and to be considerably diminished in size. From the 6th of January to the 17th of February hypodermic injections of ergotin were made at regular intervals of about three days, in doses of from half a grain to three grains (0.03 to 0.18). The patient continued steadily to progress. By the beginning of February he was able to write his name very well, and by the 17th he was able to write a letter to his brother, his writing being much as formerly. The movements of the hand were restored; and though he came to Berlin with his arm in a sling, he now walked about like any other man, and usually with a stick in his hand. The aneurism still pulsated very evidently, but with decidedly less force, and had considerably diminished in size. The throat is flatter, and the triangular fossa between the two sterno-cleido-mastoids is again visible. The preparation of ergot employed was Bonjean's watery extract, diluted with three times as much of rectified spirit of wine and of glycerine. Upon one occasion three grains of ergotin were injected in one day, and six the next following; the patient complained of flashing before his eyes and pain in his right shoulder, but of nothing else; in particular he was not sick.

In a second case, a carpenter, aged 42, had a saccular aneurism of the radial artery about the size of a hazel-nut. One single injection of two grains and a half of the watery extract of ergot caused it completely to disappear. The morning after the injection it could not be felt; but after dinner, probably from using the hand to eat with, a trace of it could be perceived. Next day a slight erythematous redness surrounded the little puncture, and the cellular tissue beneath seemed slightly swollen and infiltrated. These symptoms gradually disappeared in about eight days, and with them the aneurism, of which no trace could then be felt.—*Berliner Klinische Wochenschrift*, March 1869.

ON THE PROPAGATION OF PHTHISIS.

M. VILLEMIN has lately read a memoir on this subject before the Académie de Médecine, in which he gives the results of a series of experiments. (1.) By the inoculation of the liquid matters of the expectoration of the phthisical. A large proportion (three-fourths and three-fifths) of rabbits thus treated became tuberculous. (2.) By the inoculation of the dried matters of the expectoration

of the phthisical. When the sputa slowly dried were inoculated no result followed. The author concludes that their virulent properties had been destroyed by putrefaction. But when sputa rapidly dried were inoculated on three rabbits they became phthisical. By sprinkling a blistered surface with dried powdered sputa, one of several rabbits experimented on was made phthisical. The blowing of powdered sputa into the trachea by a small opening was followed in two out of four rabbits by tubercle. Powdered sputa kept in a damp chamber for four months did not produce tuberculation in animals inoculated with it. (3.) By the inoculation of the sweat of the phthisical. The animals died of suppuration without tubercle. (4.) By the injection of tuberculous matter and of phthisical sputa. Rabbits fed with tuberculous matter both from man and another rabbit became tuberculous in the proportion of three to five. Four guinea-pigs that had eaten forty grammes of phthisical sputa had all their organs sown with tubercles. One died suddenly from intestinal hæmorrhage, dependent on a tuberculous ulceration. The following are some of the author's conclusions:—Glanders is the affection which has most points of resemblance to pulmonary tuberculosis. In glanders the contagious matter is the discharge. The expectoration of phthisis is analogous to the discharge in glanders, and it is most probable that tuberculosis is propagated in the same manner as glanders. When the expectoration of the phthisical is received into vessels and carried away by sewers, etc., it putrefies and becomes innocuous. But too often it is thrown upon the earth, or upon impermeable surfaces, or retained in dwelling-houses, trodden under foot, and resolved into a dust, which soon infects the air in confined places. Too often it is received on handkerchiefs, linen, earthenware, etc., and by rapid drying the virulent matters acquire the most favourable physical conditions for infecting. Expired air seems no more capable of transmitting the disease than it is of conveying glanders. The virulent principles of both diseases do not seem volatile enough to be conveyed by the air. The discharge from the air-passages and sputa are the visible and tangible agents of contagion. Phthisis does not spread amongst the attendants in the consumption hospitals of London, because the expectorated matters are received and thrown into places where they decompose. In ordinary hospitals bedclothes and linen may be a means of transmission. But the most favourable conditions for contagion are to be found in the dwellings of the poor, and in common habitations, such as barracks, convents, prisons, ateliers, etc., where sweeping the floors raises in the form of dust any discharges that may have fallen. The alleged more frequent transmission from husband to wife than from wife to husband, the author explains by the fact that the woman remains more constant at home, and brushing and cleansing the places which may have been soiled by the expectorated matters. The author concludes that the prophylaxis of phthisis may be summed up in avoiding the morbid agent and augmenting the resistance of the organism.—*Gaz. Méd. de Paris*, 17th April.

INOCULATION OF PULMONARY TUBERCLES.

COHNHEIM and Bern Frankel (of Berlin) have instituted a number of experiments intended to check those made by M. Villemin on the inoculation of tubercle in animals. Guinea-pigs were the animals used, and inoculation was performed by introducing the matter to be inoculated through an incision into the peritoneal cavity. The first question they proposed to examine was, Whether inoculation would produce in the guinea-pig a condition resembling that of miliary tuberculosis in man? For this purpose they inoculated a certain number of guinea-pigs with miliary tubercles taken from a man who had died from generalized miliary tuberculosis. One only survived eighty-three days. Miliary tubercles were found in the liver, the spleen, the pleura, the lungs. Subsequent experiments gave similar results. They then proposed another question, Whether artificial tuberculosis were due to a specific virus? To determine this, they introduced into the peritoneum of guinea-pigs fragments of ulcerated cancers, condylomata, and sarcomata. In those animals which

survived three or four months generalized miliary tuberculosis was found, but principally in the peritoneum, the liver, and the lung. They then introduced bits of paper, charpie, and india-rubber. The result was the same. These facts seem to show the non-specific character of miliary tuberculosis, and confirm the experiments made by Sanderson and Fox. The foreign bodies introduced into the peritoneal cavity became encysted; the organized, such as cancer, etc., disappeared; the inorganic substances remained intact in the middle of a mass which the microscope proved to be pus. The internal surface of the enclosing capsule was sown with tuberculous granulations. Tubercular deposit was found in the neighbourhood of these abscesses, and in a certain number of cases followed exactly the course of the lymphatics. The third question that presented was, Whether the introduction of pus into the circulation of the animal was capable of tuberculizing it. To determine this, they took pus from two abscesses occasioned by inoculating an animal with normal cerebral matter. They diluted it with a saline solution, filtered and injected it into the jugular of a guinea-pig. Two animals were experimented on. One lived nineteen, the other seventy days. Both had miliary tubercles, especially in the lung and liver, some in the spleen, none in the peritoneum. In another experiment they injected fresh blood drawn from a guinea-pig into the jugular of another guinea-pig; the result which followed was abscess of the neck and behind the sternum, and tubercles in the lung and liver. The same experiments were repeated with similar results on dogs. The earliest day on which tuberculosis was found was the nineteenth, in the animal that underwent the injection of pus into the jugular. In the others, thirty-three days was the smallest period. The authors conclude from their experiments that the development of tuberculosis depends on the penetration of pus into the circulating current.—*Virchow's Archiv*, Bd. xlv. H. 51, 52, 1868, and *Archives Générales de Médecine*, March 1869.

ASCENDING AND DESCENDING RESPIRATION.

DR J. HAWTREY BENSON relates a case of cardiac affection in a female, æt. 19, under his care at the City of Dublin Hospital. From the physical signs present he diagnosed constriction of the mitral orifice, tricuspid regurgitation, and, from a slight systolic bruit heard louder at the second left cartilage than the second right, he thought there might be disease of the pulmonary sigmoid valves. After a fortnight in hospital the patient had an attack of hemiplegia; sensation and power of motion were lost on the left side. She was semi-comatose, but capable of being roused, and then was delirious or imbecile, and articulated with difficulty. She at this time exhibited the peculiar form of respiration known as "ascending and descending." "There were intervals of perfect apnoea, and these were almost exactly equal in duration to the periods of respiration, and each lasted for an almost constant period of fifteen seconds. Thus each minute was divided into four periods—two of perfect apnoea and two of puerile respiration." Another interesting point was, that it was only while the patient was allowed to remain in the semi-comatose state that this peculiar form of breathing was present. When she was roused up the breathing became almost normal; but it again assumed the ascending and descending character when she was allowed to lapse into the semi-comatose state. This condition continued for twenty-four hours; the semi-comatose state and the peculiar respiration then disappeared gradually. She lived six days afterwards. The post-mortem examination revealed great contraction of the auriculo-ventricular opening, a funnel shaped mitral valve; absence of chordæ tendineæ; the musculi papillaries appeared to be inserted directly into the funnel. Vegetations on the aortic valves; reduction of the calibre of the aorta, which took a sudden bend to the left; thickening and stiffening of the tricuspid valves; no fatty degeneration of the heart. The brain was flabby; the right corpus striatum softened, and three small extravasations of blood were buried in its substance. The author thinks that this case goes far to prove that ascending and descending respiration is in great part a nervous

phenomenon, though, for its production, it seems essential that there should be either fatty degeneration of the heart, or constricted mitral orifice, or some cause tending to produce an accumulation of red blood at the left side of the pulmonary circulation, in fulfilment of the conditions considered necessary by Dr Little, who believes that this peculiar form of respiration is produced by a loss of balance between the efficiency of the two ventricles. In the above case the peculiar breathing was only present when the patient was allowed to remain in the semi-comatose condition. For its production, there seem to be necessary, (1.) A certain diseased state of the heart, by reason of which, indirectly, the excito-motor impulse upon the nervous centres, conveyed through the pulmonary branches of the pneumogastric, is diminished; (2.) A certain weakened state of those nervous centres, by reason of which the reflecto-motor impulse is diminished.—*Dublin Quarterly Journal of Medical Science*, August 1869.

REDUPLICATION OF THE SOUNDS OF THE HEART.

It has been asserted that reduplication of the second sound of the heart possesses no importance in prognosis or diagnosis. According to Geigel, this symptom is, no doubt, occasionally observed, although at long intervals, amongst healthy subjects; but it is constantly found in a series of patients who suffer from mitral narrowing and insufficiency. The majority of such patients are middle-aged, thin, anæmic, and have suffered for a long time from cardiac affection. In these cases a reduplication of the diastolic sound may be generally heard at the situations where the tricuspid orifice, the aorta, and the pulmonary artery are auscultated. The two diastolic sounds are more intense over the aortic and pulmonary orifices than over the mitral; the second diastolic sound is also more marked over the situation of the pulmonary orifice than over the situation of the aortic. We may explain the reduplication of the diastolic sound by assuming a non-simultaneous occlusion of the semilunar valves of the aorta and of the pulmonary artery; the valvules of the latter shutting an instant after the valvules of the former. Hence it is that the second diastolic sound is more accented over the situation of the orifice of the pulmonary artery than the first. The retardation of the closure of the pulmonary valves is due to the left ventricle ridding itself rapidly of its blood, whilst the right, gorged with blood, empties itself more slowly. Also the aorta retracts more energetically and more rapidly than the pulmonary artery, the elasticity of which diminishes day by day in proportion as the engorgement of the right heart increases. A constant reduplication of the second sound of the heart may serve as a diagnostic sign of mitral narrowing or insufficiency; but reduplication of the second sound of the heart may also be produced in any case in which engorgement of the right heart and dilatation of the pulmonary artery exist. In the latter case the symptom will not be so constant as in that of valvular alteration. Reduplication of the second sound is also observed in young robust people attacked with tuberculosis, in the emphysematous, in pleurisy, and in fatty degeneration of the heart.

Guttmann, without denying the assertions of Geigel, attributes much less importance to the sign in question. He does not admit that reduplication of the second sound of the heart is an habitual sign of mitral contraction. On the contrary, he regards it as a sufficiently rare phenomenon, never constant, and only to be observed where the patient is in a state of complete repose. When the heart's activity is thoroughly called into play the reduplication disappears.—A. Geigel (*Verh. de Würzb. Med. Ges.* N. F., 1, 2, p. 49, 1868), and P. Guttmann (*Virchow's Archiv*, p. 105, 1869), quoted in *Archives Générales de Médecine*, June 1869.

THE DIFFERENT KINDS OF CLINICAL THERMOMETERS.

THE principal forms of clinical thermometers are about half-a-dozen in number:—

1. Inconveniently long German thermometers, not graduated on the glass, but furnished with a piece of paper inserted in the outer tube.

2. Thermometer about a foot in length, not self registering, with curved bulbous extremity to facilitate its introduction into the axilla.

3. Self-registering maximum thermometer, on Philips's principle, rather more than ten inches long.

4. Pocket maximum thermometer, on the same principle, about six inches long. Stem of instrument somewhat thick and clumsy, with bulb of small diameter.

5. Pocket maximum thermometer, on same principle, about six inches long, well proportioned, with bulb of larger diameter. The degrees are closer to one another than is desirable in an instrument which is to be read to the one-tenth of a degree.

6. Small toy instruments about three or four inches in length, which are of very little service.

The thermometer of form (1) is an extremely inconvenient instrument, which is especially prone to inaccuracy. The forms (2 and 3) are very liable to fracture, when employed in private practice, on account of their great length.

Some thermometers have the Centigrade as well as the Fahrenheit scale marked on the glass stem, whilst others have the Centigrade scale divided on the wooden tubes which enclose them. The Reaumur scale would have been far more useful, since Germany is the headquarters of this department of scientific medicine. Loving simplicity, and finding that the presence of two scales on the stem of the thermometer is somewhat perplexing, I convert the Fahrenheit into the other scales, when needful, by means of the table commonly employed for this purpose, which is contained in almost every good work on chemistry or meteorology.

Of all the clinical thermometers which I have examined, I consider that the instrument supplied by Hawksley, of Blenheim Street, London, is the best. It is six inches long, about five inches of which are divided into 20° Fahr., thus allowing nearly a quarter of an inch of space for each degree, which is again subdivided into five parts. It is read to the one-tenth of a degree with the greatest facility. I cannot, however, shut my eyes to four faults in this the most convenient clinical thermometer which has been hitherto introduced.

a. It is not correct, although the accuracy of its indications is guaranteed.

b. The bulb is too small, and does not consequently expose a surface sufficiently large to the part of the body whose temperature is to be ascertained. It is sometimes, in certain cases, very difficult to take the temperature of the axilla correctly, especially in the emaciated, when the bulb is so small as it is now generally constructed.

c. There is not a sufficient amount of space between the commencement of the scale and the bulb; hence arises a danger of jerking the index back into the bulb when the thermometer is set.

d. The black material, employed for rendering the divisions of the scale clearly perceptible to the eye, does not withstand the action of soap and water.

It is my intention to have a clinical thermometer made which will be free from the last three faults. This instrument, when accompanied by a certificate of verification from one of the observatories, will be as near perfection as anything in this world can possibly be.—*Dr Cornelius B. Fox, in Medical Times and Gazette, 6th Oct. 1869.*

THE STETHOSCOPE AND CLINICAL THERMOMETER COMBINED.

As the thermometer is, like the stethoscope, quite entitled to the appellation of a *vade-mecum*, it should always accompany the physician in his professional visits, the associate of that valuable aid to auscultation.

A trifling addition to the ordinary tubular stethoscope suffices to convert it into an excellent protecting sheath, in which the thermometer can be carried. The bulb rests in the bell-shaped extremity of the stethoscope, where it is maintained by the superposition of a cap. This cap is made either of leather with an elastic ring or of vulcanized india-rubber, the former material being preferable. It is removed and readjusted with the greatest facility. Sometimes a little india-rubber washer is desirable at the neck of the thermometer

to prevent any vertical motion of the instrument, when violent exercise on horseback is taken. The diameter of the tube of the stethoscope should correspond with that of the thermometer in order to prevent all lateral motion.

If Mr Eve, of 18A Featherstone Street, City Road, London, be furnished with the following measurements of any stethoscope for which a cap is desired, he will transmit one by post as soon as possible.

1. Diameter of the bell-shaped extremity.
2. Diameter of its neck at half-inch from measurement No. 1.

The same philosophical-instrument maker is willing to undertake the safe conveyance of thermometers to Kew, and will return any that may be sent to him for verification promptly with their certificates from that observatory.—*Ibid.*

SUGGESTIONS TO THE PURCHASERS OF CLINICAL THERMOMETERS.

THERE are two or three suggestions which may prove useful to the purchasers of clinical thermometers. I will not give any advice in the matter, believing fully in the general rule laid down by Lord Derby, that "advice unasked for is rarely valued."

a. Mercurial thermometers which are two or three years old are always to be preferred.

b. A clinical thermometer should be a very sensitive mercurial maximum, self-registering, on Philips's principle, six inches long, with graduations marked on the glass stem, extending from 90° to 112° Fahr. The degrees should be divided into fifths, and be one-fifth of an inch apart from each other. It should be free from the faults already adverted to. It may be enclosed in a stethoscope, furnished with a cap for its protection, or carried in a boxwood case, the former mode being by far the more convenient and portable arrangement.

c. No instrument should be purchased without a certificate from an observatory of its *recent* verification.

Mercurial thermometers are liable to read higher than is correct, through age, and this change especially occurs during the year or two immediately succeeding the period of their construction. The bulb, having been formed by the action of heat, undergoes contraction after its manufacture, the fibres of the glass taking some little time to assume their permanent position. Hence it has been usual amongst some makers of meteorological instruments to lay down their thermometers, like their port, for improvement with age, before engraving the scale on their stems. "By quite a recent discovery in the manufacture of these instruments," writes one who sells clinical thermometers, "the glass bulb of the thermometer is reduced to its ultimate degree of contraction before the stem is divided, thus obviating the necessity of keeping the tubes filled for the space of one or two years before dividing them, and rendering it possible to make an absolutely accurate instrument in a week." With the object of ascertaining the truth of this statement, I made a careful examination of one of these thermometers, and discovered that it was incorrect. Its readings were about two-fifths of a degree too high.

It must be remembered that the verification of a two-or-three-year-old mercurial thermometer at an observatory should not be relied on as a guarantee of the perpetual accuracy of an instrument. The authorities of the Kew Observatory consequently append to their certificates the following amidst other notes:—"This instrument ought, at some future date, to be again tested at the melting point of ice, and, if its reading at that point be found different from that now given, an appropriate correction ought to be applied to all the above points."—*Ibid.*

ABSORPTION OF IODIDE OF POTASSIUM BY THE SKIN.

DR FERRAND refers to a case of iodism occurring in private practice, as a consequence of the application to the skin of dry iodide of potassium. This fact, besides showing the possibility of the absorption of dry substances by the skin, affords a new means of administration of this important remedy. The case was that of a female who was attacked by inflammatory symptoms in the pelvic

region, accompanied with purulent evacuations through the rectum. After a careful diagnosis, it was established that these symptoms were due to the presence of an immense pelvic abscess, occupying all the space behind the uterus and the broad ligaments. Dr Ferrand wished to combine with the local symptomatic treatment the internal use of iodide of potass in pretty strong doses; but in a few days very distinct symptoms of iodism obliged him to desist, although the fitness of the remedy appeared already manifested by a sensible improvement in the condition of the patient. Scarcely had the iodic phenomena ceased, when the readministration of the iodide appeared to be justified; but it became necessary to suspend it again after three days. It was then that Dr Ferrand thought of the application of dry iodide of potass. With this view he made the patient put on a shirt which had been previously dipped in a solution of two drachms of iodide, and then dried. After three days this shirt was replaced by a second, prepared in the same manner; but towards the end of the fourth day the iodic symptoms recurred. These symptoms were coryza, lachrymation, a sense of weight and pain over the frontal sinuses, a sense of occlusion of the posterior nares, muscular pain extending over the whole region of the neck, constant nausea accompanied with frequent vomiting, and smart fever. All these phenomena corresponded, in fact, with those previously observed during the internal iodic treatment; and although they appeared after a longer lapse of time, when the remedy was applied externally, yet they remained more pertinaciously, showing that if the action of the medicine were a little less prompt, it acted more deeply and persistently than was the case when administered according to the usual method.—*Bulletin Gén. de Thérapéut.*

TREATMENT OF ITCH IN THE PRUSSIAN ARMY.

DR SCHULTZE having adopted liquid styrax for the treatment of itch, and after different experiments, Dr Pastau proposed the following formula for the employment of the new antipruritic remedy:—Liquid styrax, 1 oz.; olive-oil, $\frac{1}{2}$ drachm: to be rubbed in at two dressings. Dr Schultze then suggested a more easily miscible and more homogeneous composition, as follows:—Rectified spirit of wine, 2 drachms; liquid styrax, 1 oz.; olive-oil, 1 drachm; for two applications. According to the author, the styrax does not spoil the linen; it has no disagreeable odour; two frictions at from twelve to twenty-four hours' interval are sufficient, but they should be performed with much care; it is necessary to cover with the liniment the entire surface of the skin, with the exception of the head, and not to miss a single fold of the skin. During the treatment the patient is prohibited from washing, so as to prolong the contact of the remedy. Irritation of the skin has never been observed to follow the use of the styrax. The scabious eczema is not altered by it; the styrax only destroys the animalcules and their ova; but the eruption disappears also, and the itching ceases. In two or three weeks the skin regains its natural condition.—*Journal de Médecine de Lyon.*

TREATMENT OF HYPERIDROSIS BY SAGE.

VAN SWEETEN used sage with good success in the treatment of hypercrinia sudorale; Dr Vignard profited by this plan in the following case:—A man 25 years of age, strong and healthy, was for many years from time to time the subject of abundant sweating, which came on at two or three o'clock in the morning, without any appreciable cause. The secretion was so abundant that the mattress on which he lay was soaked completely, and it was general over the whole body. Sulphate of quinine not having proved of any service, Vignard prescribed the following decoction: Leaves of sage a handful, water half a pint. These are made to boil for about two minutes; they are then left to get cool together; the fluid is strained and sweetened to taste. It is taken in the evening. The sweating ceased from the first day of the use of the decoction, but reappeared with the suspension of the treatment. From this good result Vignard advises the use of sage for the treatment of the sweating in phthisical patients, which to the present time there has been found no method

of checking. On account of the fugitive character of the effects, it is necessary to keep the patient under the influence of the remedy as long as we desire to prevent the return of the disease. The efficacy of the decoction of sage is increased by the addition of alum and of diluted sulphuric acid.

THE NEGRO SKIN.

DR BOISLINIERE thinks that the peculiar immunity of negroes from bilious diseases and sunstroke is owing to their having, as it were, *two livers*: one interiorly, under their right ribs; the other exteriorly, over their whole body, in the form of their black skin. The black pigment deposited there is a species of black bile, or is made up of the constituents of bile, and it requires a great deal of this hydro-carbon to keep up that glossy, ebony hue. Hence he cannot get bilious; for it takes all the bile he can make to keep him shiny and black. Hence he thrives even in the most malarious districts, and never has the bilious or yellow fever, but remains perfectly healthy and merry. He can work all day under a broiling sun and dance all night because he is of a shining black. The white man, unlike the negro, has only one liver, and that a white one, and quickly succumbs. Even the negro loses his brilliant black lustre at the north, and becomes ash-coloured, cold, and morose; in spite of a generous and fatty diet, he cannot get bilious enough to keep himself warm and black at the same time.—*Humboldt, Medical Archives; New York Medical Gazette.*

BROMIDE OF POTASSIUM.

DR SALVATORE CARO remarks, in connexion with the disturbances arising from dentition, "In the most severe cases of odontitis, either with or without ulcerated gums or loose bowels, I have never failed to relieve the child by the local application of the bromide of potassium. Almost immediately after the first rubbing, the gums, from being turgid, swollen, and red, assume their natural colour, and a certain amount of ease is felt; saliva commences to dribble, and, as if by enchantment, agitation, carpopedal involuntary motion, vomiting, and looseness of the bowels, disappear. As the vomiting and diarrhœa in this case are not the consequence of gastro-enteritis, but of an excitement of the stomach and intestinal mucous membrane, owing to the inflamed condition of the gums, I suppose it will never be cured either by the scarification of the gums or by the use of astringents or anodynes, but, as I shall hereafter prove, simply by the use of the bromide of potassium."—*New York Medical Gazette.*

A SIMPLE AND EASY METHOD OF ASCERTAINING DEATH.

THE Marquis d'Orches having offered a premium of twenty thousand francs for the discovery of a practical method of ascertaining death, available even in the poorest hamlet, Dr Carrière, of St Jean du Gard, presented the following, which he states he has put in practice for the last forty years; namely, placing the hand with the fingers closely pressed one against the other, within an inch or more of a lamp or candle; if alive, we observe the hand to be transparent, of a rosy hue, and capillary circulation, or life, in full play. If, on the contrary, we place the hand of a dead person in the same relation to light, we do not perceive any of the above phenomena; we see but a hand of marble, without circulation, without life.—*Journal de Médecine et de Chirurgie.*

COLOUR OF NEGRO INFANTS.

M. LARCHER, of Paris, has made some interesting observations on the gradual coloration of new-born negro children, which, the editor of the *Annales d'Hygiène Publique et de Méd. Légale* justly observes, are of great value in determining the precise time of death of such children.

At the moment of birth the negro child he studied did not differ from one of white parents, except that the scrotum was quite black, and a circle of the same colour surrounded the base of the umbilical cord. The hair was light-brown

and not woolly. About the third day the frontal region grew brown, and two brown bands extended from the sides of the nose to the commissures of the mouth. Then the knees commenced to grow dark, and gradually the whole body assumed the colour of the parents.

ERGOTIN IN DYSENTERY AND DIARRHŒA.

GROS (*Allgem. Wiener Med. Ztg.*, No. 25, 1868, and *Allg. Med. Cent. Ztg.*, No. 58, 1868) recommends this remedy.

He treated 44 cases of dysentery with it, and had but one death, this being caused by dietetic irregularity on the part of the patient; 25 of the cases were of a mild type.

He gives six grains in mucilaginous emulsion; and frequently also gives clysters of twelve grains, in starch.

Where it is not desirable to check the discharges too suddenly, as in acute diarrhœa, the enemata alone are used. He also speaks favourably of its effects in the chronic diarrhœa of adults and children; the latter take the remedy best in the form of *dragées*.

The clysters are particularly useful as hæmostatics in the bloody dejections of dysentery.

In one case, two doses and two clysters were given,—the latter two days subsequent to the former; cure followed within six days; but there was a slow convalescence, owing to unpropitious circumstances.

NEW USES OF THE HYPODERMIC SYRINGE.

At a meeting of the Society of Physicians in Vienna, 5th June 1868, Dr Mader spoke of the usefulness of this instrument for drawing out liquids for diagnostic and other purposes. (*Allgem. Med. Central Zeitung.*, No. 50, 1868.)

He has made use of it for the purpose of obtaining blood for examination from cholera patients, and in making a diagnosis in a case of ascites, in which a doubt existed whether chronic peritonitis or cirrhosis hepatis caused the dropsy. The character of the liquid proved it to be a case of cirrhosis. In another case, an abscess in the region of the shoulder, with secondary venous congestion, was emptied with the instrument. He also pumped out a chronic serous exudation from the pericardial sac of an aged female: the first operation yielded a few ounces of liquid, and relieved the urgent symptoms; at a second trial, three ounces were removed. The patient died soon afterwards, as she had also hydrothorax. Mader thinks that the operation deserves much regard, as it is easily performed, and attended with comparatively little danger. Autopsy revealed the two spots of puncture in the pericardium cicatrized; they had produced no injurious consequences. In future operations the canula should be provided with a stop-cock, so that air may not enter when the body of the syringe is detached in order to empty it; and the body of the syringe might be made of greater capacity.

He furthermore used a similar syringe for the operation of transfusion, and performed this by plunging the sharp canula into a vein turgescing by pressure; superficial veins were chosen. In order to avoid throwing the blood into the cellular tissue, he recommends that a few drops from the vein be first allowed to escape from the detached canula; when this has taken place we may be sure that the vein has been entered, and we then attach the body of the syringe and gently throw in the blood, or other liquid used for transfusion. He injects at several spots until enough has been entered, and says that patients submit to repeated punctures much more willingly than to the operation of laying bare the vein selected, and then opening it for the application of the syringe, which not only appears more formidable to them, but may be followed by phlebitis.

SURGERY.

GANGRENE OF ABDOMINAL WALLS AFTER AN APPARENTLY SUCCESSFUL OPERATION FOR STRANGULATED HERNIA.

B., æt. 42, had had a reducible femoral hernia for five years, and wore a bad truss, which allowed it often to come down. In April 1869, it came down to a greater extent than usual, and could not be returned. The operation was performed on the fifth day, and seems to have presented no unusual symptoms, except the presence of a little recent lymph on the knuckle of bowel. Free passage followed the operation, notwithstanding the use of opiates. For five succeeding days the patient was feverish, but the chief symptom was considerable tympanitis. On the sixth day, after a dose of castor-oil, the tympanitis was less; no evidence of peritonitis was present, but the right flank was covered with bullæ; the skin was violet in colour, and evidently gangrenous; by two o'clock the whole side was in the same state, and the surface cold; and at five o'clock the patient died. What was the cause of this sudden and frightful gangrene? The patient had received no fall or blow. He seemed about to recover from the operation. The autopsy showed no traces of peritonitis; the intestines were full of gas; there seemed nothing to explain this very remarkable and rare form of gangrene.—Abridged from *Gazette des Hôpitaux*, No. 79, 1869.

EXPERIMENTS ON THE INTERSTITIAL INJECTION OF CAUSTIC FLUIDS INTO TUMOURS.

M. RICHEL is at present working at a new method of cauterization for the destruction of tumours in the interstitial cauterization. He does not introduce the caustic into the tumour in the solid form, whether as an arrow or in any other shape, but, by a Pravaz's syringe, he injects it in the fluid form, without it being necessary to injure the skin except by a very small puncture. His first attempts were a year ago, at the Pitié, and, remembering the results which Berard had obtained against vascular erectile tumours by this method of injection, he thought of employing the same method in all forms of tumour.

Berard had had some accidents, but he used only mercurial salts; and, in one case especially, it was not clearly made out whether the death was due to absorption of the poison or to a purulent infection.

Richet wished to use caustics which, though powerful in their local action upon the tissues, would have little poisonous effect on the system, and for this purpose selected chloride of zinc. Chloride of zinc in the solid form has, since the days of Bonnet, been daily used by the Lyons School. Bonnet destroyed the sebaceous cysts of the hairy scalp; and, as these little tumours have little vitality, it was on these that M. Richet commenced his experiments.

To enucleate wens it is necessary simply to inject three or four drops of chloride of zinc, liquefied by exposure to the air, but not further diluted. We have seen several times the result of this, which is the liquefaction of the contents of the tumours, and the consequent easy expulsion of the whole through the small puncture made by the syringe. . . . But the use of the injection is not limited to wens.

In a young man with an enormous goitre, M. Richet injected, at two sittings, the middle lobe of the thyroid. The first time, the chloride of zinc had been diluted with water, and produced hardly any result. The second time, it was introduced pure by several punctures in the middle line, and resulted in the destruction of some skin, and extensive induration and partial gangrene of the middle lobe of the thyroid. Curiously enough, the two lateral lobes diminished very rapidly in size, because less engorged and more lax, under the influence of this inflammation of the middle lobe.

If this method is to prove successful in the treatment of goitre, M. Richet sees many advantages which it has over the method by caustic arrows. It does not require that the skin should either be divided by the knife or destroyed by

more powerful caustics; nor to divide the deeper tissues, as is required in making entrance for the arrows. Also, it gets rid of the dangers which accompany every open wound, and especially avoids the risk of hæmorrhage. Already several patients have died of hæmorrhage, after having undergone the treatment by caustic arrows; and in an especial manner in the treatment of goitre, it is found very difficult to arrest the hæmorrhage which is often caused by the arrows. M. Richet records that, in a case in which he operated in his own house, he had to close with his finger, for two hours, the wound by which he had introduced a caustic arrow. Whenever compression was removed, the blood poured out with such violence as to force out the arrow along with it. No such hæmorrhage has occurred during the operation of interstitial injection.

In a case of suppurated cervical gland, M. Richet injected the chloride of zinc with the result of rapid destruction of the gland; the sphacelated fragments came away rapidly in a profuse suppuration.—*Gazette des Hôpitaux*, No. 85, 1869.

ON THE MOVEMENTS OF THE IRIS. BY A. GRUENHAGEN.

WHILE nearly all authors are at one on the existence and position of the sphincter muscle of the pupil, the same unanimity does not exist regarding the dilating muscle. Its description varies with the various authors. Some place it in the anterior, some in the central, and some in the posterior layers of the iris. The author's observations on this subject have led him to the conclusion that this muscle does not exist. He enters into minute details to show the errors of the different anatomists, and the reasons for the errors, and discusses the recent account of the dilator muscle given by Henle. He gives the following resumé of his opinions on the subject, the result of his experiments.

A.—Contraction of the pupil can be produced by the following causes:—

1. Irritation of the motor oculi, and consequent contraction of the sphincter pupillæ.

2. Irritation of the trifacial, and consequent modification of the tissues of the iris in a diminution of the elasticity of the iris, and an augmentation of intraocular pressure by an exaggeration in the secretion of the aqueous humour.

3. Paralysis of the sympathetic trunk, and consequent relaxation of the muscular fibres in the walls of the vessels.

B. Dilatation of the pupil is the result—

1. Of paralysis of the motor oculi;

2. Of paralysis of the fifth nerve;

3. Irritation of the sympathetic trunk, and consequent contraction of the vessels of the iris.—From the *Gazette Médicale de Paris*, 1869, No. 15; quoted from *Zeitschrift für rationelle Médecine*, 1866.

ABSORPTION BY THE HEALTHY BLADDER.

ON this subject, M. Segalas has made the following experiments:—He injected seven and a half grains of iodide of potassium, dissolved in about two ounces of distilled water, into the bladders of ten healthy men. In none of these ten experiments was there any evidence in the saliva during forty-eight hours of any absorption of the drug. The same dose given per rectum was easily detected in both saliva and urine.—*Gazette Médicale de Paris*, No. 15, 1869.

RESULTS OF PARACENTESIS THORACIS AND TRACHEOTOMY.

IN the report given in to the Medical Society of the Hospitals on the diseases most prevalent in Paris during the two months of March and April, M. Besnier has taken notice of the frequency and severity of pleurisies, and the advantage gained by the operation of paracentesis. In twenty-five cases, the operation had been performed fourteen times always with success, the patients treated in this manner having recovered more rapidly than those did in whose cases the effusions were too limited to warrant the operation. It is not only in subacute cases where the effusion is considerable that those physicians accustomed to

the operation make use of it, but M. Fremy, for example, has used it in four cases of acute pleurisy with comparatively slight effusion, and in all the four has been thankful that he did so. The success of surgery has been less when applied to the treatment of croup. We are neither for nor against tracheotomy. We believe that in desperate cases it may be of service in prolonging life, and thus either giving our art the chance of interfering with success, and the organism the opportunity of regaining sufficient strength to combat disease successfully; but we dare not advise its performance in croup in the way in which we advise paracentesis in pleurisy. The partisans of tracheotomy answer the fatal statistics of its opponents by saying, that it is used only in cases of the worst kind, in which the disease, if left to the resources of the physician, would prove certainly fatal; and that, consequently, successful cases are really *resurrections*. We do not wish to oppose this way of looking at the subject; but we must say, that during March and April, there have been very few of these resurrections. M. Barthez, a great supporter of tracheotomy, has had thirteen cases in the two months, eleven of which have died. M. Bergeron, out of nine cases, has had three successful ones. M. Roger has lost all the seven cases in which he has operated; one of them, however, died from the effects of fever contracted in the hospital.—*Gazette Médicale de Paris*, No. 23, 1869.

NOTE ON THE CHANGES UNDERGONE BY LIMBS AFTER RESECTIONS, AND SPECIALLY ON THE SEAT AND AMOUNT OF SHORTENING NOTICED AFTER RESECTION OF THE HIP. BY M. SEDILLOT.

THE changes in the limbs of children after resection are still little understood. Theories based on experiments on animals have doubtless considerable value; but careful observation of actual cases is needful for real progress.

I have lately examined (June 1869) a boy thirteen years old, the head of whose femur I excised four years ago, and have noticed with great interest both the amount of growth of the limb and the changes which the entire limb had undergone in its different segments.

The method of operating I pursued had enabled me to preserve the ligaments, and to save the head of the bone in the acetabulum without previously dislocating it, in the hope of limiting the displacement of the bone, and of obtaining a new articulation in the acetabulum. Since 1865 the child has been in excellent health. Flexion, extension, adduction, and rotation of the thigh are as perfect as on the healthy side. Abduction alone is not so complete. On placing the hand on the trochanter it is easily felt that a joint has been formed at the upper edge of the old articulation. The cicatrix is small and depressed. The limb is slightly atrophied in its whole length; but the patient walks and runs with great freedom on tiptoe without any raised shoe.

The shortening, which in August 1865 had been less than an inch, is now increased to three inches, and very careful inquiry has been made into its seat and cause, as follows:—

1. The trochanter has been elevated to the extent of one inch and a half. This is due in great measure to an excavation of the edge of the cotyloid cavity, in which the neck of the femur plays in an attempt to reproduce an articulation.
2. The femur between the great trochanter and the knee is nearly an inch shorter than on the healthy side.
3. The leg has undergone a similar shortening. The resection of its head seems thus to have exercised no direct shortening influence on the femur, as the leg in which no bone was excised had lost as much in length as the femur had. Want of exercise had probably been the cause of the relative shortness. The child is well developed, being about four feet high, and weighing 86 lbs.; the average height and weight of a boy at his age being, according to M. Quetelet's observations, three feet nine inches, and 81 lbs.

A case operated on by Dr Saire (? Sayre) in 1854, and seen again in 1868, fourteen years after, exhibited a shortening of little more than half an inch, proving that in it the growth of the limb had not been interfered with.

The excellent work of Dr Good, from which the last case is quoted, gives an

opportunity for a remark on the slight value of most statistics. This surgeon has, with great zeal and remarkable impartiality, collected 112 cases of excision of the hip performed between 1860 and 1868. Of the whole, 52 were cured, and 60 died. The proportion of deaths is as follows:—In France, 85·71 per cent.; in Russia, 66·67; in Germany, 64·71; in America, 44·83; and in England, 34·37.

In face of such a table one cannot help seeing the great misfortune it is for France to have to include the disastrous results of most of the operations performed in Paris in its statistics. It is not truly that the courage and talent of Parisian surgeons are at fault, but the conditions in which their patients are placed are almost necessarily fatal.

The mortality of the major operations is most shocking. Twelve cases of this resection were performed in Paris, all of which were fatal; while in the same period the two cases operated on in Strasburg were both successful—the only ones in France that were so.—*Gazette Médicale de Paris*, No. 28, 1869.

M. CINISELLI ON THE TREATMENT OF ANEURISMS OF THE THORACIC AORTA BY GALVANO-PUNCTURE.

IN the present condition of medical knowledge, galvano-puncture is the only direct treatment which can be applied to internal aneurisms, and specially to those of the thoracic aorta. Since M. Petrequin showed the value of this method up to July 1868, four thoracic aneurisms have been treated in this manner. The results have been improvement in one, failure in two, death in the fourth. This result, far from being discouraging, leads us to consider the special circumstances of each case. In the first, treated by me in 1846, the galvano-puncture was applied twice to a false aneurism, arising from a vast aneurism of the ascending aorta, which appeared externally after eroding the head of the clavicle and the first rib. The operation was without effect, and four months and a half later the patient died after rupture of the internal aneurism.¹

In the second case, related by M. Boosé of St Petersburg, the tumour, having by its pressure caused destruction of the ribs and sternum, projected on the chest from the second to the sixth rib, and between the axilla and the sternum. It was soft, bluish in colour in the centre, and rupture seemed imminent. The operator treated it twice by galvano-puncture. The operation was followed by diminution of the tumour, and disappearance of its blue tint, so that the patient no longer was in danger of rupture.²

The third and fourth cases are well known to readers of the *Edinburgh Medical Journal*—viz., those recorded by Dr John Duncan in its pages.³

In a very long comparison of the different methods of obtaining and applying the galvanic current for similar cases, M. Ciniselli gives the preference to the Voltaic pile over the batteries of Wollaston, Bunsen, or Daniel. He recommends small needles, with their position frequently changed so as to cause numerous rather than large coagula, and the interrupted rather than the continuous current, as being less dangerous and more efficacious.—*Gazette des Hôpitaux*, No. 40, 1869; quoting from *Gazette Médicale de Lombardie*.

¹ *Gazetta Medica di Milano*, No. 2, 1847.

² *Gazette Médicale de Paris*, No. 33, 1850.

³ *Edinburgh Medical Journal*, April 1866.

Part Fifth.

MEDICAL NEWS.

LETTER TO THE EDITOR.

DR WOOD'S CORRECTION IN REGARD TO CLINICAL EXAMINATIONS OF LONDON APOTHECARIES' COMPANY.

9 Darnaway Street, Edinburgh, 23d October 1869.

SIR,—In my vindication of the Medical Council in your last number (for October), p. 320, speaking of Clinical Examinations, I said,—“The London Apothecaries have not as yet adopted them. They have obviously some difficulties in the way of organizing them for their examinations; but they, I understand, are taking steps to institute them.” By a letter from the Chairman of the Court of Examiners of the Apothecaries' Company of London, I am informed that that body have been carrying out Clinical Examinations since the month of June 1867. I regret very much that inadvertently I was led into error in this matter, and am only too glad to take the first opportunity of correcting it, and of doing justice to the London Apothecaries, who, let me add, have always shown themselves ready to introduce into their curriculum and examinations those improvements which the circumstances of the times demand.—I am, Sir,

ANDREW WOOD, M.D.

NOTE ON THE SUDDEN CHANGE OF TEMPERATURE IN THE LAST WEEK OF AUGUST 1869.

THE sudden fall of temperature which occurred in the British Islands in the last week of August 1869, merits a passing notice. From the 24th the weather was exceptionally hot, the temperature rising, especially in England, to a higher degree than was observed even during the previous summer; and from the 29th to the 31st the weather was exceptionally cold, the temperature falling lower than has occurred for many years in August.

At most places the transition from hot to cold weather was sharp and sudden, and the change was accompanied with dark clouds, clouds of dust, and in a few cases thunder and lightning. From the time of the maximum of the 28th to 9 P.M., a period of from five to seven hours, temperature fell at Marchmont, Dunse, to the extent of 35°.0; at Galashiels, 32°.4; and at Carnwath, 29°.6. The change took place earlier in the east than in the west, occurring at East Linton, Haddingtonshire, about 3.30 P.M.: at Edinburgh, 4 P.M.; Carnwath, 6 P.M.; Callander, 7 P.M.; and Arrochar, Loch Long, between 8 and 9 P.M. On the 29th, the weather was generally dull, cloudy, and cold; the maximum temperature at many places in Scotland being 30°.0 lower than on the 28th. On the night of the 29th-30th the sky was very clear, and it was during this night that the greatest cold occurred. At many Scotch stations the temperature in shade fell below freezing: at Douglas Castle, it was 25°.0; Deanston House, 25°.7; Drumlanrig, and North Esk Reservoir (1150 feet), 26°.0; and Bowhill, 27°.0. With exposed thermometers, greater cold was registered; thus 21°.0 was recorded at Douglas Castle (750 feet), and 24° at Thirlstane (650 feet). At Sandwick, Tongue, Dunrobin, and Culloden, the temperature did not fall below 40°.0. At places in England and Ireland, the temperature fell to, or slightly below, freezing, the lowest occurring at many places on the 31st. At Paris, the lowest temperature, 47°.0, did not occur till the morning of 1st September. In the south of France, in Spain, and Italy, no fall of temperature took place.

On the 26th and 27th, barometers were higher in Great Britain than in Farö, Norway, Sweden, Russia, Austria, Italy, and Spain. On the 28th,

barometers stood higher from the west of Great Britain in the direction of S.E., as far as the centre of Germany, the difference being about a quarter of an inch; winds were almost all E. or S.E., and the barometric gradient being small, they were everywhere light, the sky clear, the air dry, and the heat of the sun excessive. On the 29th, the highest barometer, 30.43 inches, was at Stornoway, whence pressure lessened towards the N.E. to 29.65 inches, in the Gulf of Finland; towards the S.E. to 29.88 inches, in the Netherlands; and towards the S. to 30.00 inches, at Penzance; winds were N.E., N., or N.W. On the 30th and 31st, the pressure became more equally distributed over the British Islands, the highest, however, still being at Stornoway.

Thus a stream of air from northern regions began to flow over Great Britain on the 28th, under the influence of which the temperature rapidly fell, at many places, to the extent of 40°·0 in ten or twelve hours. On the following day the northerly current continued, the sky gradually cleared of clouds, the air became drier; and, accordingly, as radiation was little checked, the temperature fell to a degree rarely witnessed in Great Britain in August, where, particularly in low-lying localities, pools were frozen over, potato-stalks destroyed, flowers and leaves of trees withered, and, as at Carnwath, even thistles shrivelled up. —*Journal of the Scottish Meteorological Society.*

THE DEATHS OF 2095 persons were recorded in the eight towns of Scotland during September, 1057 males and 1038 females. This is the greatest number registered for September since the Act came into operation in 1855; and, increase of population being allowed for, is 193 deaths above the average of the month for the past ten years.

THE FOOT AND MOUTH DISEASE.—A great dispute has been going the round of the newspapers and medical journals, as to whether this disease can be communicated to man, and also as to whether the milk is injurious or not. At p. 704 of our number for February 1863 will be found two cases of aphtha epizootica occurring in man, by Dr J. B. Hislop; and appended to them will be found a very concise but accurate history of this affection, showing its truly panzootic character. Though wholly unknown in Britain till the spring of 1839, this disease has been long well known on the Continent, and so early even as 1707 its communicability to man was recognised and described, many cases having since then been related by numerous veterinarians, a large collection being to be found in Haesinger's *Recherches de Pathologie Comparée* (Cassell: 1853). The poisonous character of the milk has been also, and seems still to be, much disputed. This is readily explained by the fact that the milk at the height of the disease, if used at all, must be largely diluted, and its poison thus to a great extent destroyed. But the very many recorded instances of disease arising from the use of the milk are quite sufficient distinctly to prove its danger, and to show that those who deny it talk ignorantly. "*Tous les vœux nourris par des vaches ayant des aphthes aux mamelons ont péri.*" says M. Binet. Watson of Kelso narrates (*Ed. Vet. Rev.*, August 1862, p. 505) the death of many calves and the illness of many children from the use of murrain milk. The children were cured by stopping the milk; and numerous other instances might be given, every veterinarian who knows anything of the literature of his profession being well acquainted with them. It is of more importance to point out the character of murrain milk by which it may be recognised. These are two. First, the presence in it of microscopic granular bodies and agglomerations of globules precisely resembling those found in the colostrum of newly-calved cows; and, second, its coagulability on having its temperature raised to 170° or more; the milk then curdles into little flocculent masses floating in a watery whey. This condition is quite peculiar to murrain milk, and it is believed that when the milk can be boiled without coagulating, it is no longer dangerous to use. These and other points will be found fully entered into in the paper already referred to, and in *Die Milch in Medicinisch Polizeilicher Beziehung*, B. Nauheimer, Giessen 1860.

IN our obituary of the late Dr William Seller, we formerly alluded to the delight with which his genial presence was hailed at all our medical convivial gatherings; one of our Societies, the Harveian, impressed with the potent influence of his quaint humour and cheery laugh, conferred upon him the honorary degree of Doctor Hilaritatis. Upon this occasion he produced as his "Thesis" the following Carmen Macaronicum, in which the characteristics of some of his contemporaries are cleverly hit off by the use of one or two comprehensive words:—

POSTPRANDIALE MACARONICUM IN DIEM HARVEII NATALEM.

PRID. ID. APRIL. MDCLVI.

Auctore Hilaritatis Doctore.

HARVEIANI, gaudeamus;
Nosmet lætos habeamus;
Bono vino madeamus—
Hic est dies quo est natus
Vir ad cælum fama latus:
O diem dignum laudatu,
Diem dignum decantatu,
Diem dignum celebratu,
Qui Olympo detraxisti,
Qui in terram advexisti,
Qui in virum transtulisti
IPSUM APOLLINIS NUMEN,
Quod vitæ solvat volumen,
Harveium Angliæ lumen.

*Clamitantes gaudetote,
Strepitantes stridetote,
Ovantes exultatote,
Lætantes triumphatote.*

Quum sit meum, dum prandetis,
Harveiani, quod jubetis
Id suadere inassuetis,
Dicturus sum quod sit actum,
Ut sciatus bene factum.

Eso corde, dum prandebant,
Fidem juvenes edebant,
Novi sanguinis fiebant;
Animæ se mox transcendunt,
Quodam igne se incendunt;
Quisque intra corpus suum,
Ut in meum vel in tuum,
Si quæ rana nos essemus
Et pellucidæ naremus,
Sanguinem circumeuntem
Videt venis redeuntem—
Sic res se habet inter nos
Si justo ritu datur dos—
Plaudete nunc; ecce bonos;
Eccos hornos Harveianos.

*Vos juvenes conclamatote,
Vos juvenes jubilatote,
Curarum obliviscimini,
Labente hora fruimini,
Lætas, quos debet, seprimini,
Nec ultra modum gradimini.*

In jus dare quum sit meum,
Harveiani, quemque reum,
Qualis vini spernat deum,
Curulem qualis malleum;
Vestra pace hæc edico
Nec inopinatos ico;

Si recusat quis ridere
Et se hilarem præbere,
Paret salsum jus sorbere.
Nolens vini uti luce,
Me hilaritatis duce,
Is sit dignus mala cruce.

*Amat Apollo ridentes
Nec spernit ille bibentes;
Ergo nunc inter bibendum,
Nemini non est ridendum;
Jocamini, hortamini
Lætamini, Bacchamini,
Hilari sono strepite,
Magnos cachinnos edit.*

Juvenes Lusitanicum;
Senes bibant Hispanicum;
Ni vetet æs medicum,
Utrique præstat Gallicum.

O vinum optimum bonum!
O vinum divorum donum!
O vinum fontem sermonum!
Vino inest urbanitas,
Vino inest humanitas,
Vino inest hilaritas.

Noster patronus Apollo,
Quem digna laude extollo
Haud æque ac Bacchus potat,
Nec unquam quidem titubat;
Exemplo ille stet nobis;
Faveat omnibus probis:
Is Milcolumbo faveat,
Et Inglum salvum habeat—

Noster patronus Apollo
Quem digna laude extollo,
Artes hic videt exultas
Queis invideret vetustas:
Nos omnes morbis medemur,

De futuro pollicemur,
 Plurimi fidibus ludunt,
 Carmina quidam recidunt,
 Sunt qui sagittas extrudunt ;
 Ecce Harveianas artes,
 Multas quas sustinent partes ;
 Inter hos eminet agmen
 Quod vox jungit et carmen ;
 Harveianis voce carus
 Christison jam late clarus,
 Et Bennett lingua agilis
 Canendo admirabilis,

Γελωτοποιῶν MacLagan
 Gerens mecastor tiaran,
 Quippe est sagittarius,
 Quod ad cetera varius
 Multa auxiliarius ;
 Ecce Peddie qui insuper
 His conjunxit vocem nuper ;
 At laquear Lucas angit,
 Dum curculione tangit.

Sed tempus est ut finiam,
 Ne cachinnatus hinniam.

THE INDIAN MEDICAL SERVICE.

THE Candidates for Her Majesty's Indian Medical Service, who were successful at the competitive examination at Chelsea in February 1869, and who have undergone a course of instruction at the Army Medical School, together with the total number of marks obtained at the examinations at Chelsea and at Netley, are given below :—

<i>Names.</i>	<i>Studied at</i>	<i>Marks.</i>	<i>Names.</i>	<i>Studied at</i>	<i>Marks.</i>
Colthorp, C. W.	London,	5753	Linton, H. J.	Edin. & Lon.	4255
Wood, A.	Aberdeen,	5668	Peters, C. T.	Edinburgh,	4177
Sanders, R. C.	London,	5455	Roberts, H. P.	Edinburgh,	4138
Sanders, E.	London,	5015	Colson, E.	London,	4070
Franklin, B.	London,	4895	Macrury, C. W.	Edinburgh,	4025
Edis, F. P.	London,	4888	Murphy, M. E.	Irel. & Edin.	4021
Wright, R. T.	Edin. & Lon.	4886	Price, W.	Ireland,	3938
Davis, G. M'B.	Ireland,	4856	Tyrrell, S. M.	Edinburgh,	3921
Gupta, K. P.	Edinburgh,	4853	Boulth, W. H.	Lon. & Glas.	3863
Howell, J. A.	London,	4501	Backhouse, J.	Ireland,	3703

THE EDINBURGH ROYAL INFIRMARY.—At a meeting, on the 14th ult., the Merchant Company, by a majority of forty-three, confirmed the resolution formerly arrived at, to offer George Watson's Hospital and Grounds to the Managers of the Royal Infirmary at the price formerly agreed on of £43,000. This resolution has been promptly followed by several handsome subscriptions (one from the ex-Dean of Guild Law of £1000), given on condition that the Infirmary be removed to the Watson's Hospital site. No sooner, however, has this dispute been settled than another is brought into the foreground ; the question now being what form to give the Hospital. Is it to be a palace or a mere series of cottages ? The palace system has already had so many futile trials that it would seem to be a great pity to throw away the present opportunity of giving the cottage system one fair trial. A suggestion has been made that large sheets of rough glass fitted into cast-iron frames might be made use of in forming the walls and roof, either wholly or to a large extent. These might be made perfectly air-tight, and would save all the expense of lath, plaster, and painting. These sheets might also be made highly ornamental by using coloured glass ; they could be readily and perfectly cleansed by soap and water, or by any disinfectant ; and they could be unscrewed, and the whole building removed in a very short time indeed ; besides having the very great advantage of permitting either through roof or walls the introduction of as much light as may be required. The suggestion is practical, and of great importance. Another suggestion has been, to employ the concrete slabs employed by Mr Nicoll in the construction of his cottages, as exhibited in the Paris Exhibition, which are remarkable for their extraordinary cheapness and great strength.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

At a meeting of the Royal College of Surgeons of Edinburgh, on 20th ult., the following office-bearers were elected for the ensuing year:—

President, James D. Gillespie, M.D. *Treasurer*, John Gairdner, M.D. *Librarian*, Archibald Inglis, M.D. *Secretary*, James Simson, M.D. *President's Council*—James S. Combe, M.D.; Andrew Wood, M.D.; James Dunsinure, M.D.; James Spence; James A. Hunter, M.D.; Henry D. Littlejohn, M.D. *Ex officio*, John Gairdner, M.D. *Examiners*—William Dumbreck, M.D.; Archibald Inglis, M.D.; Robert Omond, M.D.; James Dunsinure, M.D.; Peter D. Handyside, M.D.; James D. Gillespie, M.D.; Henry D. Littlejohn, M.D.; Patrick H. Watson, M.D.; David Wilson, M.D.; John Smith, M.D.; D. M. C. L. Argyll Robertson, M.D.; Joseph Bell, M.D. *Assessors to Examiners*—James S. Combe, M.D.; William Brown; Adam Hunter, M.D.; James Spence. *Officer*, John Dickie.

UNIVERSITY OF EDINBURGH.

CHAIR OF PATHOLOGY.—On the 1st ult., the Curators elected Dr William R. Sanders to the Chair of Pathology, vacant by the resignation of Dr William Henderson.

PUBLICATIONS RECEIVED.

- Henry J. Bigelow, M.D.,—Dislocation of the Hip. Philadelphia, 1869.
 Henry Blanc, M.D.,—Compulsory Vaccination. London, 1869.
 David J. Brakenridge, M.D.,—Contribution to the Theory of Diathesis. Edinburgh, 1869.
 Richard Payne Cotton, M.D.,—Phthisis and the Stethoscope. London, 1869.
 Howard F. Damon, M.D.,—The Necroses of the Skin. Philadelphia, 1869.
 Edward Ellis, M.D.,—A Practical Manual of the Diseases of Children. London, 1869.
 Henry Gray and T. Holmes,—Anatomy, Descriptive and Surgical. London, 1869.
 A. G. V. Harcourt and H. G. Madan,—Exercises in Practical Chemistry. Oxford, 1869.
 Christopher Heath, F.R.C.S.,—Practical Anatomy. London, 1869.
 Luther Holden, F.R.C.S.,—Human Osteology. London, 1869.
 T. Holmes, M.A.,—System of Surgery. Vol. I., General Pathology. London, 1869.
 Evory Kennedy, M.D.,—Hospitalism and Zymotic Diseases. London, 1869.
 Thomas Wharton Jones,—Failure of Sight from Railway and other Injuries of the Spine and Head. London, 1869.
 Arthur Leared, M.D.,—On the Presence of Sulphocyanides in the Blood and Urine.
 J. Wickham Legg, M.D.,—A Guide to the Examination of the Urine. London, 1869.
 William Marcet, M.D.,—Clinical Notes on Diseases of the Larynx. London, 1869.
 Dr Moritz Meyer,—Electricity in its Relations to Practical Medicine. Translated by Wm. A. Hammond, M.D. New York, 1869.
 William Allen Miller, M.D.,—Elements of Chemistry. Part III., Organic Chemistry. London, 1869.
 Dr Felix von Niemeyer,—Text-Book of Practical Medicine. Translated by G. H. Humphreys, M.D., and C. E. Hackley, M.D. 2 vols. New York, 1869.
 Alexander D. Sinclair, M.D.,—Myxoma. Boston, 1869.
 T. H. Tanner, M.D.,—Manual of Clinical Medicine. Revised and enlarged by Tilbury Fox, M.D. London, 1869.
 Chas. T. Williams, M.D.,—The Climate of the South of France. London, 1869.

Part First.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Contribution to Vital Statistics.* By JAMES STARK, M.D., F.R.S.E.

(Read before the British Association at Exeter, August 21, 1869.)

PART I.—*On the General Mortality of the Town and Rural Districts of Scotland.*

VITAL statistics are such a recent branch of science, that it is not surprising to find erroneous theories prevailing, or erroneous statements accepted as facts. To endeavour to correct some of these, the following papers have been drawn up; and as everything in statistics depends on the correctness with which the facts have been ascertained, it may be stated that the facts quoted in this paper are based on the census of 1861, and on the official reports of the Registrar-General of Scotland. These reports are more trustworthy and more correct than those of England or of Ireland; for it is believed that nearly every birth, death, and marriage which occurs in the country is entered on the registers; whereas the Irish registers are wholly untrustworthy, from registering only about two-thirds of the births and marriages, and about three-fourths, if so many, of the deaths; while the English registers are very defective in the registration of their births, allowing at least forty thousand annually to escape registration; and there is good reason to believe that they are not much more perfect in the registration of the deaths. So long, therefore, as registration of these events remains defective in these countries, their vital statistics are incapable of close comparison with the correct statistics of Scotland; and any attempt to deduce laws from imperfect data must necessarily result in failure.

Since the Act for the Registration of Births, Deaths, and Marriages came into operation in Scotland, it has been established on the most conclusive of data that the annual mortality prevailing among the inhabitants of the towns is much higher than that of the residents in the rural districts. Thus, if we take a ten years' average of the mortality prevailing in the three great groups of districts into which Scotland is divided, it appears that for every thousand persons in each, 16 died annually in the insular, 17 in the mainland-rural, but 27 annually in the town districts:—

TABLE I.—1855-1864.

Districts.	Mean Population.	DEATHS. Ten Years.	Percentage to Population.
Insular,	161,308	25,904	1·60
Mainland-Rural, . .	1,758,089	319,188	1·78
Town,	1,125,541	305,045	2·71

This ten years' inquiry, therefore, establishes the first great fact on which the attention should be fixed, viz. :—That the mortality in the towns is one-third higher than it is in the rural districts.

But towns vary in size. It was therefore of no small importance to ascertain whether the mortality which prevailed in them bore any relation to their size ; in other words, whether the mortality increased with the size of the town. The whole of Scotland was therefore divided into four groups of districts—1. The eight principal towns, each having upwards of 25,000 inhabitants ; 2. The large towns, each having from 10,000 to 25,000 inhabitants ; 3. The small towns, each having from 3000 to 10,000 inhabitants ; 4. The remainder of Scotland, which might appropriately be named the rural districts. As the facts ascertained regarding these are new, and lead to important conclusions, they are summarized in the following table, and the births and marriages during the same period are given, as they have important bearings on the death-rate :—

TABLE II.—*Births, Deaths, and Marriages in Scotland, during the Ten Years, 1856-1865.*

Groups of Districts.	BIRTHS.		DEATHS.		MARRIAGES.	
	Births.	Percentage to Population.	Deaths.	Percentage to Population.	Marriages.	Percentage to Population.
Principal Towns,	342,783	3·873	249,994	2·825	79,355	0·896
Large Towns, .	96,723	3·807	62,419	2·457	20,214	0·795
Small Towns, .	183,795	3·644	107,133	2·124	34,793	0·689
Rural Districts, .	446,947	3·149	240,636	1·695	79,891	0·563

This table proves that just in proportion to the size of the town is the mortality which prevails among its inhabitants. Thus, in every thousand persons in each of these four groups, 28 died annually in the principal towns, 24 annually in the large towns, 21 annually in the small towns, but only 17 annually in the rural districts.

From this table, therefore, we draw the conclusion, that just in proportion to the largeness of the mass of human beings congregated together, is the lamp of life more quickly burnt out ; in other words, that the larger the town, the greater is the mortality among its inhabitants.

But Nature has always some compensation for excessive waste ; and man's life is no exception to the general rule, as Table II. fully testifies. Thus, if there is a greater waste of life in the large towns, there are more marriages and more births ; and these almost in the exact proportion to the waste of life. Thus, if the principal towns have 28·25 deaths in every thousand persons, they have 8·96 marriages, and 38·73 births. If the large towns have annually 24·57 deaths per thousand inhabitants, they have as compensation 7·95 marriages, and 38·07 births. If the small towns have the lower mortality of 21·24 deaths annually in every thousand persons, they have only 6·89 marriages, and 36·44 births. And the rural districts, with their very low rate of 16·95 deaths per thousand inhabitants, have also the very low proportion of 5·63 marriages, and 31·49 births.

We thus arrive at a most important conclusion, and one which is proved to be a law of nature, viz., that the number of births, deaths, and marriages in the different groups of towns in a country, bear a close relation to and dependence on one another, being all of them highest where the mass of human beings is greatest, and lowest where the population is most widely scattered.

The uniformity with which this result is brought out year by year in the towns and rural districts of Scotland, also proves that by this may be tested the accuracy with which the statistics of a country have been collected. If the towns and districts, when thrown into groups according to the density of population, do not show this close relation between the number of the births, deaths, and marriages, we may be perfectly sure that the statistics are deficient in the registration of one or other of these events.

When the high mortality which prevails in towns was first distinctly proved, it was endeavoured to be accounted for by assuming that, as births were more numerous in towns, the proportion of children to adults would necessarily be much greater than in the country ; and, inasmuch as children died in higher proportion than adults, this, it was asserted, would satisfactorily account for the higher town mortality, without looking to other causes. This view has even been maintained during the present year.

Now, every assumption should be founded on facts ; and in statistics it is always necessary that these be on a sufficiently extensive scale to bring out correct results. Let us inquire, therefore, whether the proportion of children to adults is greater in the town than in the country districts. Table III. shows the facts for Scotland, and proves that the above hypothesis is not consistent with fact.

By this table it is seen that (discarding decimals) 37 per cent. of the population of the mainland-rural districts of Scotland were under 15 years of age ; whereas only 34 per cent. were at the same ages in the town districts. That is to say, that instead of the towns having a higher proportion of children, as the above hypothesis

assumed, they had three per cent. less than the rural districts. But this table brings out a more curious result, for it shows that the insular districts, whose population is rapidly declining, had a slightly higher proportion of children than the towns, though the latter are increasing at a very rapid ratio.

TABLE III.—*Number and Proportion of Persons at Three Periods of Life in the Population of Scotland in 1861.*

Groups of Districts.	POPULATION at different Ages.				Percentage to Total Population in each District.		
	Total.	Under 15 years.	15-60.	60 and above.	Under 15 years.	15-60.	60 and above.
Insular, . .	160,733	55,393	86,824	18,516	34·462	54·018	11·520
Mainland-Rural, .	1,763,377	657,585	950,952	154,890	37·289	53·928	8·783
Town, . . .	1,138,184	390,243	677,732	70,209	34·287	59·545	6·168

Even the proportion of children under 5 years of age was lower in the town than in the mainland-rural districts, as is seen in Table IV., for the town districts had only a proportion of 135 children in every thousand of the population, whereas the rural districts had a proportion of 138 children.

TABLE IV.

Districts.	Population under 5 years.	Percentage to Population.
Insular, . . .	19,597	12·192
Mainland-Rural, .	243,932	13·833
Town,	153,730	13·506

We thus arrive at the conclusion, that different proportions of births in different classes of the community, provided they be regular from year to year, do not necessarily produce a difference in the relative proportion of children to adults, unless other causes come into play, such as immigration, emigration, or excessive mortality; and the still further conclusion, that the higher mortality in the town districts is not caused by the towns having a greater proportion of children in the population, seeing the town proportion of children to adults is lower than that existing in the country.

From reasoning alone we could have arrived at the same conclusions. As the supply of children entering life is regular both in town and rural districts, these children, advancing regularly from childhood to adolescence, manhood, and old age, would maintain very nearly the same relative proportions of children to adults in both town and rural districts, provided no migrations occurred from the one to the other. But a large migration from the country to the

town districts begins at about the fifteenth year of life; and it is this large immigration to the towns at the active period of life which causes the proportion of adults from 15 to 60 years of age to constitute 59 per cent. of the population of the towns, while the emigration of persons at these ages from the rural districts causes their proportion at the same ages to fall to 54 per cent. (Table III.)

It was pointed out above that the general mortality of persons living in the rural districts was one-third lower than that of the inhabitants of the towns. It has now to be shown, that at every stage of life town populations are cut off at a more rapid rate than rural populations. Shortly to show this, the population may be divided as to ages into four classes, viz.,—1st, under 5 years; 2d, 5 to 20 years; 3d, 20 to 60 years; 4th, 60 years and upwards; and when this is done for Scotland during the ten years 1855 to 1864, we have the result in the following table:—

TABLE V.—*Deaths in Scotland at Four Periods of Life during the Ten Years 1855-1864; and Proportion to the Population at the same Ages.*

Districts.	Under 5 years.		5-20 years.		20-60 years.		60 & upwards.	
	Deaths.	P. cent. to Pop.	Deaths.	P. cent. to Pop.	Deaths.	P. cent. to Pop.	Deaths.	P. cent. to Pop.
Insular, . . .	6,817	3·46	2,288	0·44	6,580	0·92	10,219	5·50
Mainland-Rural,	105,656	4·34	36,967	0·62	78,555	1·02	98,010	6·34
Town, . . .	137,670	9·05	32,242	0·93	82,702	1·49	52,431	7·55

Here it is seen, that in every thousand children under 5 years of age 34 died annually in the insular, 43 in the mainland-rural, but 90 in the town districts. The absolute mortality of children under 5 years of age was therefore more than twice as great in the towns as in the rural districts.

From 5 to 20 years of age the towns still exhibited a fearfully high mortality as compared with the rural districts. It must be remembered, that this is the most healthy period of human life, and that at which the mortality is smallest; yet the table shows as the result of a ten years' registration, that in every ten thousand persons between the ages of 5 and 20 years, 44 died annually in the insular, 62 in the mainland-rural, but 93 in the town districts. The mortality in the towns, therefore, even at this healthy period of life, was more than a half greater than that in the rural districts, and more than double that in the insular districts.

The practical corollary deducible from these facts is, that were all our town-born children reared in the country, at least eight thousand lives would annually be saved to the population of Scotland.

Adult age—viz., from 20 to 60 years—while it is the working and active period of life, has a low mortality. Yet even at that age the inhabitants of towns die annually in much higher proportions than

do the dwellers in the country. Thus, by Table V. it is seen that in every ten thousand persons at these ages 92 died annually in the insular, 102 in the mainland-rural, but 149 in the town districts. The mortality, therefore, at this period of life in the town districts was nearly one-half greater than in the rural districts. Residence in towns, therefore, caused annually one-third more deaths among adults than would have occurred had all lived in the rural districts.

The last stage of life—viz., from 60 years to the close of human existence—proves no exception to what has been shown to be the general law of nature regarding the mortality in the town and rural districts; yet its statistics are interesting, as proving some curious facts.

Great obloquy is every now and then endeavoured to be thrown on landed proprietors by raising the cry that they drive off all the old men from their estates, and thus throw them upon the towns, letting their houses to younger and more able-bodied men. The extent to which this is done, if done at all, must be perfectly infinitesimal, as the statistics of the population fail to show it; inasmuch as the proportion of aged persons in the towns is very much smaller than it is in the rural districts. Thus, by Table III. it will be seen that in every thousand persons of the general population, 115 are above 60 years of age in the insular, 87 in the mainland-rural; but only the small proportion of 61 in the thousand in the town districts. This fact corroborates the correctness of the mortality statistics of town and country at the earlier ages, for it shows that death had cut off such a very large proportion of the inhabitants of the towns during the earlier ages of life, that it left comparatively few to survive their sixtieth year.

It has often been asserted that towns, from affording a greater amount of warmth and shelter, are less fatal to the aged than the rural districts. This, however, is a mistake, as is demonstrated by Table V., where it is seen that the aged die in the town in a much higher ratio than in the rural districts. Thus, in every thousand persons above 60 years of age, there died annually 55 in the insular, 63 in the mainland-rural, but 75 in the town districts. The mortality, therefore, of persons above 60 years of age, was about a fifth greater in the towns than in the rural districts, and nearly a half greater than in the insular districts.

The practical conclusion from all this inquiry is, that, at every age, a residence in towns burns down the taper of human life much more rapidly than a residence in the country; that the ratio of mortality seems to be somehow inextricably bound up with the massing or density of the population; and that nature appears to endeavour to compensate for the higher mortality by making the births and marriages increase with the deaths.

Some have supposed that the higher town mortality may to some extent be accounted for by the greater mental activity, and consequently greater mental and bodily exhaustion, among the inhabi-

tants of the towns. But that assumption, even if true of adults (which it never has been proved to be), would entirely fail to account for the excessive town mortality of children under 5 years, whose mental powers have not yet been excited to action, or for the high mortality among persons from 5 to 20 years of life; or for the excess of deaths among the aged, whose period of mental activity may be said to be past.

But the subject may be viewed from another stand-point, when the waste of life consequent on a residence in towns will be more strikingly brought out, viz., the mean age at death in the three great groups of districts during the ten years 1855-1864.

In the insular districts, it was found that the mean age at death was 41·55 years. In the mainland-rural districts (which include all the small towns), the mean age at death was 35·31 years. While in the town districts, which include all the towns with above 10,000 inhabitants, the mean age at death was only 24·69 years.

Here, then, we have the striking fact brought to light, that a residence in towns, as compared with that in the mainland-rural districts, caused a mean loss to every individual of *ten and a half years of life*. The real loss of life caused by a residence in towns is, however, much greater; for, had the districts which comprise the small towns, which have populations varying from 3000 to 10,000 inhabitants, been excluded from the mainland-rural districts, the mean age at death in these rural districts would have been about 40 years. This would show that a residence in town shortened every individual's life by about 15 years; which additional years he would have enjoyed had he lived in a purely rural district. It is a known fact that the insular districts of Scotland are remarkable for the longevity of their inhabitants; and it is, therefore, not surprising to find that a ten-yearly summary of the deaths shows that the natives there attain a mean age at death of 41·55 years.

Here, then, is a wide field for the philanthropist; for, could he bring down the mortality of our towns even to that of the mainland-rural districts, he would save annually upwards of 13,000 lives to the population of Scotland; and every individual living in the large towns would, on an average, live ten and a half years longer than he has any chance of doing at present.

ARTICLE II.—*Four Cases of Spinal Myosis; with Remarks on the Action of Light on the Pupil.* By D. ARGYLL ROBERTSON, M.D., F.R.C.S.E., Lecturer on Diseases of the Eye, Edinburgh.

GEORGE SMITH, æt. 51, tailor, applied to me for advice on account of dimness of sight. He stated that he enjoyed good health until July last year, when one very hot forenoon, while crossing the North Bridge, he felt giddy and faint, but managed with some

difficulty to walk home. The following day he experienced pain in his back, extending to his legs, increased while taking exercise. His back was also tender on pressure. He had, moreover, twitchings, and occasional numbness in his legs, especially the right, with want of power, so that in walking he staggered, and had to use a stick. He could not stand steadily in the dark, but had to grasp at some object for support. He at this time complained of dull pains in his forehead, and noticed that his water constantly dribbled away. These symptoms prevented him continuing more than a few hours daily at work. He did not observe his sight affected till the end of December, when he discovered that the sight in his right eye was dim. Since then the sight has neither improved nor deteriorated, while with his left eye he sees as well as he ever did, but he has noticed that objects appear darker than they used to do, and that he requires more light while working than formerly sufficed. He is not conscious that his face flushes more readily than natural.

On examination, I found that while walking his gait was unsteady, and that he could not plant his feet firmly on the ground. He also exhibited considerable awkwardness in turning. He stood erect with his eyes closed, but swayed a little from side to side. On looking at the eyes, the drooping of the lids and the small size of the pupils at once attracted attention. The drooping of the lids was more marked in the left than the right eye—the left palpebral aperture at the widest point measuring only $3\frac{3}{4}$ lines, while the right measured 4 lines. Each pupil measured $\frac{3}{4}$ line in diameter; they were insensible to the influence of light, but contracted to $\frac{1}{2}$ line during the act of accommodation for a near object. Under repeated instillations of a strong solution of sulphate of atropine, the right pupil became dilated to a little beyond medium size, so that it measured $2\frac{3}{4}$ lines in diameter, and was quite immobile.

With the right eye the patient was slightly myopic, but even with a suitable glass had difficulty in making out very large print (No. LXX. of Snellen) at 20 feet distance. With the left eye vision was normal (No. XX. at 20 feet).

With the ophthalmoscope a slight degree of atrophy, with shallow cupping, of the right optic nerve was discovered. From the very small size of the pupil, the interior of the left eye could not be examined. Under the use of iron, combined with small doses of strychnia, a considerable improvement occurred in most of the patient's symptoms, but the pupils remained contracted, and the sight in the right eye unaltered.

For notes of the history and general symptoms of the following case, and for bringing the patient under my notice, I am indebted to my friend Dr Sanders.

John Grey, æt. 35, a clerk, was admitted to the Royal Infirmary on the 11th of June 1869, complaining of weakness in his legs and right arm.

He always enjoyed good health until fifteen years ago, when he contracted syphilis. He has never had any eruption, nor sore throat, but suffered from a swelling over his right ulna, probably of periositic nature, which disappeared under the use of iodide of potassium. He resided for a year in India, and shortly after his return, nine years ago, he had an attack of hemiplegia, which affected the left side of the face and right side of the body. Twelve months afterwards, when nearly convalescent, he consulted Dr Christison for convergent squint of his left eye, and was ordered some mercurial pills, and, while taking them, he states that he caught cold, to which he refers the commencement of his present disease.

The patient is a man of middle height, somewhat emaciated; has large joints and florid cheeks. There is very marked contraction of pupils. They each measure half a line in diameter, are insensible to light, but contract during the act of accommodation for near objects. There is no drooping of the eyelids. The skin is cool, soft, and moist. The temperature of the inferior extremities, more especially the right leg, is below that of the body. There is diminution in the motor power of both legs, accompanied by a feeling of stiffness. He can move them in all directions, but not actively. He can stand pretty steadily, even when the eyes are closed; but when he does so, he bends his body forwards, while his legs are curved slightly backwards at the knee-joints. He walks with a peculiar straddling gait. The muscles of his right calf and thigh are smaller than those of his left. There is no atrophy of the deltoid. There is partial anæsthesia, without analgesia in the right iliac and inguinal regions, extending down the right leg. Reflex action is very marked in right leg—so much so, that it often starts up without any apparent stimulus. Motor power in the right arm and hand is diminished, so as to prevent the patient carrying on his occupation as clerk. He does not complain of headache, but considers his memory affected.

The patient's vision is very slightly affected. With either eye he is able to read fine print, and is able to distinguish colours perfectly. To permit of ophthalmoscopic examination, and to test the extent to which the pupil will dilate, a drop of a strong solution of atropine was introduced into the left eye. The following day the left pupil measured two lines in diameter. With the ophthalmoscope a slight degree of "cupping" and lighter colour of the optic disc, indicating a little atrophy of nerve substance, was the only pathological condition discovered.

Dr G. W. Balfour directed my attention to the following two cases, and kindly supplied me with notes of their history and the results of examination into their general, and more especially their nervous, symptoms:—

John Dann, æt. 43, iron-turner, was admitted to the Royal Infirmary May 12, 1869, complaining of a staggering and inability to

walk, a difficulty in making water, and dimness of sight after reading for a time.

About six years ago he was seized with pain in his bladder, which was so severe as to compel him to leave his work. This pain returned at intervals of a month or two, after which he noticed that he could not make his water freely, and eventually that it dribbled away at night. He applied to a local practitioner for relief, and was treated for paralysis of the bladder, and subsequently for stricture. He was next treated at the Newcastle Infirmary for stricture and diseased prostate, and after two months was discharged as cured. He soon thereafter felt that he staggered, and could not walk straight in the streets, and observed, while washing his face, that, on shutting his eyes, he could not help falling forwards on to the basin. He once more applied for advice at the Newcastle Infirmary, and was again treated for enlarged prostate; but obtaining no benefit from the treatment pursued, he was sent to the Edinburgh Royal Infirmary to the care of Dr Watson, because of supposed prostatic disease. Finding it to be a case of nervous affection, Dr Watson transferred the patient to the Medical House. The patient has for five years past had severe pains in the rectum, to allay which he used to employ laudanum injections, but has desisted from their use since January last.

Dr Balfour found, on careful examination, that the skin of the trunk and extremities was insensible to pain, except in a narrow zone extending round the body, its breadth corresponding to the distance between the sixth and twelfth dorsal vertebrae. Sensibility in this zone is not increased. Electro-mobility and electro-sensibility were unimpaired. He complained of the sensation of a tight cord round his waist. He walks somewhat feebly, and staggers on turning. He also sways considerably if he closes his eyes while standing, and would fall if he did not open his eyes, or grasp some object for support.

On examining his eyes I found the left pupil more contracted than the right; the left measuring $\frac{3}{4}$ line, the right 1 line in diameter. There is a tendency to divergent strabismus of the left eye, for when the patient looks fixedly at an object about a foot from the eye, the left eye is seen after a time to roll outwards. Vision in the right eye is perfect, but with the left only moderate-sized print can be read. The pupils are insensible to light, while atropine only occasions medium dilatation (to 2 lines). On ophthalmoscopic examination both optic nerves were found considerably injected; while in the left eye there was a peculiar congenital abnormality, a portion of the sheaths of the optic nerve fibres passing beyond the fascia cribrosa, and extending over the retina upwards and outwards from the optic disc for a distance about equal to the diameter of the optic disc. In other respects, the fundus of both eyes is normal.

Under the use of nitrate of silver in $\frac{1}{2}$ gr. doses, the patient considerably improved during his residence in the Infirmary.

The following case is at present in Dr Balfour's wards. Although it is certainly not a typical example, I here include it, because the myosis is well marked, presenting similar features to the contracted pupils in the other cases, and because there are some slight and obscure nervous symptoms which *may* be indicative of incipient spinal affection.

Robert Clerk, *æt.* 66, a clerk, was admitted into Dr Balfour's wards on 18th October 1869, complaining of general debility. His appearance sufficiently indicates that for a lengthened period he has been in straitened circumstances. He, however, enjoyed good health till three years ago, when he suffered from varicose ulcers on his legs, which, under treatment, disappeared in about six months. Since that time he has never completely regained his strength, although he thinks he has improved of late. For the last two or three years he has been troubled with twitchings and startings of the legs while in bed at night, and for three months he has experienced a great heat in the skin, especially of the legs. He has no incontinence of urine, but states that he cannot expel his water with any force.

On examination no decided impairment of muscular power or of sensation could be anywhere detected. His gait, however, is unsteady, and when he stands with his feet close together and shuts his eyes, his body sways somewhat, but he can stand thus without support for some time.

Both pupils are of the same size, and markedly contracted, measuring barely 1 line in diameter, and only partial dilatation (to $2\frac{1}{2}$ lines) ensues on the application of a strong atropine solution. No alteration in the size of the pupil is observable under the influence of light, but when near objects are looked at contraction at once ensues. Vision is good, though not perfect in both eyes, and there is no colour-blindness.

On ophthalmoscopic examination a slightly atrophic condition of the optic nerves was observable.

(I may mention that in the examination of this patient considerable difficulty was experienced in getting from him an accurate account of his history and symptoms, as he exhibited a great tendency to modify his statements to what he imagined would please his examiner.)

These four cases serve well to illustrate the connexion between certain eye-symptoms and a diseased condition of the spinal cord. In all of them there was marked contraction of the pupil, which differed from myosis due to other causes, in that the pupil was insensible to light, but contracted still further during the act of accommodation for near objects, while strong solutions of atropine only induced a medium dilatation of the pupil.¹ In three of the

¹ I may mention, that the patients have been frequently carefully examined as to these points with a like result by Mr Walker, Professor Sanders, Dr G. W. Balfour, Dr Barde of Geneva, and many others.

cases a slight degree of atrophy of the optic nerves existed, as was evinced by a shallow excavation and lighter colour of the optic disc. In one, we observed a symptom which has been noticed occasionally in spinal disease by Brown-Sequard and others—namely, a drooping of the upper lids. In none of the cases was there any appreciable colour-blindness. As regards the nature of the spinal lesion, in one case the characters of locomotor ataxy were well marked; in the other two the form of spinal affection is doubtful; while in the fourth patient, as I have already mentioned, the symptoms of spinal disease are by no means well marked.

To most of the eye-symptoms found in these cases I alluded at length in a previous communication to this Journal. I will therefore pass them over without remark at this time. But I now desire to direct special attention to a very remarkable circumstance which I noticed in the case that formed the subject of my previous paper, and which I again observed in all the above cases, viz., that although the retina is quite sensitive, and the pupil contracts during the act of accommodation for near objects, yet an alteration in the amount of light admitted to the eye does not influence the size of the pupil. This cannot be explained by the supposition that the pupil is already so small as to be incapable of further contraction under light; because (in the healthy eye) a still further degree of contraction of the pupil may be effected by the use of the Calabar bean, and yet the pupil varies in size according to the intensity of the light. The only possible solution of the difficulty is to be found in the theory, that for contraction of the pupil under light it is necessary that the cilio-spinal nerves remain intact, and, as in these cases of myosis the cilio-spinal nerves are paralyzed, light does not influence the pupil. But hitherto this contraction of the pupil under light has been invariably referred to reflex stimulation of the ciliary branches of the third pair which supply the circular fibres of the iris. If this latter view were correct, I see no reason why in these cases light did not influence the pupil. In all of them the retina was thoroughly sensitive to light, and in all of them the ciliary branches of the third pair were healthy and active (as was shown by the further contraction of the pupil during the act of accommodation, which can only be referred to these nerves). But in all there were symptoms of spinal disease, and in all myosis due to paralysis of the cilio-spinal nerves. I am therefore inclined to the former view, in which case it is necessary to assume that the contraction of the pupil which naturally occurs when light is admitted to the eye is not as has been hitherto supposed an excellent example of reflex action, but an isolated example of normal, temporary, reflex paralysis.

I am aware that a dilated immobile condition of the pupil has been found to follow division of the third pair in animals, and that in cases of complete paralysis of the third pair, the pupil is dilated usually and insensible to light. This would rather tend to

the conclusion that the contraction of the pupil under light is due to the motor oculi; but in division of this nerve, so many tissues are injured at the same time as to render deductions from effects observed open to many fallacies, while in cases of paralysis of the third pair, we not unfrequently observe the pupil to act partially under the influence of light; and where this is not the case, the immobility may be due to degenerative changes in the nervous or muscular tissue. For a thorough solution of this question, further experiments and clinical observation are necessary.

ARTICLE III.—*On the Use of Petroleum or Earth-Oil as an Antiseptic in the Treatment of Surgical Diseases.* By J. FAYRER, M.D., C.S.I., Professor of Surgery in the Medical College, Bengal.

I HAVE recently been using petroleum, as an external application, on the antiseptic principle, in the treatment of certain surgical cases, and I subjoin a brief abstract of a few of those so treated, which, I think, so far warrant the conclusion that it has been applied with benefit, as it possesses some, if not all, of the advantages assigned to carbolic acid for this purpose. The petroleum in question was kindly supplied to me by Mr Goodenough, of the firm of Messrs Mackillop, Stewart, and Co., and is a dark oily-looking fluid, with a peculiar, though not unpleasant, aromatic odour. It struck me that this hydrocarbon might be as efficacious as carbolic acid for surgical purposes; and as it is produced in this country and in Burmah, it might be obtained in large quantities and at a smaller cost than carbolic acid; and I have no doubt its use might be extended over a wide range of hygienic purposes. The present memorandum has reference merely to its use as a surgical application on the antiseptic principle of purifying the air that obtains access to the affected surface. This petroleum is produced, I am told, in large quantities in Assam; and from this source, no doubt, an ample supply might be obtained, should it prove, after experiment, to be useful for therapeutic and hygienic purposes.

I have used it undiluted, or diluted with equal parts of oil or glycerine; and whilst it certainly has some deodorizing power, it appears also to have that of limiting suppuration, and of restraining the development of septic miasmata in the discharges, whose decomposition it probably retards.

It is also useful as a stimulating and detergent application in sloughing and ulcerating surfaces, and I have remarked, especially in one case of carbuncle, that it proved most efficacious as an external application. It is not irritating, or very slightly so, to raw surfaces, and I have not heard any complaint made beyond that of slight smarting, when it is applied to granulating and ulcerating wounds. The evidence of its virtue is as yet but limited, but it is

such as to suggest the advantage of making further trial of what may prove to be a valuable addition to our surgical resources, and is one that has the advantage of being produced in the country.

CASE 1.—Judonath, aged 30, had a large ulcer above the right ankle, with a sinus leading to the bone. The ulcer had been treated with carbolic acid dressing. Since the 30th April the earth-oil has been applied, and the ulcer is granulating healthily, is much contracted, and is cicatrizing rapidly, with very little discharge. The dressing causes no pain.

CASE 2.—Darai Sirdar had a cystic tumour, size of a walnut, removed from the root of the nose on the 12th April. The earth-oil dressing was applied immediately after the operation. The wound had nearly closed, without any suppuration, on the 25th April. The integument being redundant, however, a portion was removed on the 4th of May, and this wound dressed with earth-oil. It has healed satisfactorily, and he was discharged about the 18th. A small portion of integument sloughed; but there was almost no suppuration.

CASE 3.—Degum, aged 35, admitted on the 10th May 1869, with a deep cut in the upper and inner side of the right arm. No arteries of importance divided. The wound was dressed with petroleum, and it healed rapidly, with very slight suppuration.

CASE 4.—Rajeshwary, a Hindoo woman, aged 65, admitted with an ulcer of considerable size in the right leg. There was a profuse ichorous discharge, with considerable pain. It was dressed on the 30th April with the petroleum. The discharge diminished, and the sore assumed a more healthy aspect. To remove thickening round the ulcer, liquor lyttæ was applied, and after this the ulcer rapidly granulated with very slight discharge.

CASE 5.—M. M., an East Indian, aged 49, admitted 12th May 1869, with sloughing of cellular tissue of the palm of the right hand. Petroleum applied, and the sore assumed very rapidly a healthy action. The wound is now, 8th June, nearly healed.

CASE 6.—Ghurmo, a Hindoo female, admitted 29th March 1869, with a deep excavated ulcer exposing necrosed bone, near the left olecranon. She was evidently syphilitic. The wound was dressed with the petroleum, whilst internally potass. iod. and cod-liver oil were administered. The sore healed rapidly; the diseased bone separated; and she is now nearly well.

CASE 7.—Hurrish Chunder, aged 50, had a scrotal tumour removed on the 16th March 1869. The wound at first was dressed with the carbolic oil dressing, under which it was doing well. On the 30th April the petroleum dressing was substituted, and the wound continues to cicatrize most favourably, and without almost any suppuration.

CASE 8.—Mosum Ally, aged 35, had a moderate-sized scrotal

tumour removed on the 13th April 1869. Carbolic oil dressing was at first used. On the 30th April the petroleum was applied; the wound is granulating healthily, and with very little discharge. He is still in hospital.

CASE 9.—Soorendro, aged 10, admitted on the 14th May 1869, with iliac abscess. This was opened by making incisions through the abdominal parietes on the same date. The earth-oil was applied as a dressing, and the discharge was very slight. It increased on the 17th, but subsequently diminished, and the boy was discharged convalescent a few days later.

CASE 10.—Khosal, aged 35, admitted 10th May 1869, eight days after receiving a very severe sword-wound on the left hand; the metacarpal bones, except that of the thumb, were all divided. The wound was suppurating when he came in. He has done well since. A collection of matter formed in the forearm, which was let out. But the wound in the hand has cicatrized; other slighter wounds in the arms were dressed in a similar manner; and they have done well.

CASE 11.—Chunnum, admitted 8th May 1869, for having had his left great toe crushed by a carriage-wheel. Earth-oil was used from the very beginning, and the sloughs separated on 15th March 1869, and the wound cleaned by the 17th March 1869; and it is now healing up with little discharge.

CASE 12.—Babu Sheik had his ring-finger removed on 26th April 1869, with the head of the metacarpal bone, for an injury. The earth-oil was used since the 29th. There was never any great discharge from the wound, which began to suppurate on the 30th. Granulations were so rapidly growing that, by the 6th, most of the iron wire sutures were seen half-embedded within them. Sutures removed on 7th, and cicatrization began on the 9th, and he was discharged on the 20th cured. He never complained of much pain from the oil.

CASE 13.—J., aged 40, admitted on 10th May 1869, transferred from the medical wards for an ulcer on the left shin. Earth-oil applied. The sore has contracted, with hardly any discharge, and completely cicatrized.

CASE 14.—A., aged 30, admitted 2d May 1869, for ulcers in his right leg. Earth-oil used from the beginning, and liquor lyttæ applied on 10th May 1869; the sores nearly healed, though on admission they were each about two inches square. They are now cicatrizing.

CASE 15.—G. H. M., aged 28, admitted 6th May 1869, for a cut in the popliteal space dividing the hamstring tendons. Earth-oil used from the beginning, and the wound has not yet suppurated; the flaps are becoming adherent.

CASE 16.—H., aged 25, admitted 7th May 1869, from an incised wound below his right breast about six inches long. Dressed with earth-oil from the beginning, and it is now very nearly healed.

He complained of but slight burning. The wound completely cicatrized.

CASE 17.—A European had a lacerated cut about two inches long on his forehead, which healed in about a week and a half without any discharge.

CASE 18.—J. R., aged 39, had two contused wounds on the head on 12th May 1869. They were dressed with the earth-oil on the next day. The sloughs separated on the 17th with some bleeding; the wounds have since been healing, with slight discharge.

CASE 19.—Acham, a Chinese, aged 34, came for a large carbuncle on his back, of a fortnight's duration; it is full of dark sloughs, and there is much pain. It is dressed with the oil, the discharge has diminished, and the sore looks healthy. He ultimately recovered completely.

CASE 20.—A native, aged about 45, was admitted in June with a wound in the left iliac region. A bull had struck him with his horn, and opened the abdominal cavity. The intestines protruded, but were returned. He recovered rapidly with petroleum dressing, without a single bad symptom.

ARTICLE IV.—*Sanitary State of Hong-Kong.* By W. T. BLACK, Esq., Staff-Surgeon.

HONG-KONG has been noted for its unhealthiness ever since its foundation in 1842, and statistics of all sorts have established this beyond measure with respect to both military and civil populations.

The situation of the settlement is unimpeachable in a geographical point of view, as it is placed at the entrance of the Canton River, and is the first port to be reached from Europe, and the last to be departed from in China, which give it a commanding position. Nothing can be equal to the picturesqueness of the harbour and town, and the adaptation of their conformation for mercantile and naval requirements. A land-locked and spacious harbour affords ample and safe refuge for shipping, and the site of the town on the slopes of the Victoria range of hills affords splendid means of drainage. Numerous rills trickle down the mountain-sides to give water to the inhabitants, and a great extent of sea frontage affords ample space for wharfage for vessels. Yet why is this favoured spot cursed with a bad climate? why have not sanitary science and capital been laid out to remedy the defects of the place?

The city has been built devoid of arrangement, and few steps have been taken to separate the European from the Chinese inhabitants. The dirty habits of the latter should have led the founders to have provided against the mixed dwelling of the two races, just as in many towns in the East the two are kept distinct. The emanations

from the Chinese may prove to be prejudicial to the health of Europeans inhaling them, though not to the natives themselves, while their crowded manner of living would only tend to intensify the source of mischief.

Between the Murray Barracks and the military hospital there are Chinese shops and lodging-houses, and some of the latter are of the lowest description, while beyond the hospital and engineer and barrack stores the natives are living densely packed, and this immediately behind the fine range of godowns and private dwellings of Europeans fronting the Praya. Masses of Chinese huts again are planted on the face of the Victoria Peak above the European residences, some near Seymour Terrace on the hillside, and others beyond in the Pokfolum direction. These remarks do not refer at all to the strictly Chinese part of the town on the west, inhabited by a population recking with effluvia, and as thick as ants in an ant-heap, and no greater source of contamination to the town to leeward can exist than the breezes wafted from these quarters during the south-western monsoon. The Chinese never bathe in the harbour, and have no river for the purpose here, so that their skins are redolent of perspiration. They keep pigs and poultry in their houses, and treasure up these animals' dung in their own premises for a stock to be sold as manure to the country agriculturists. As they have no privies nor sewers, their custom is to deposit their ordure on the hill-sides around and about their houses, leaving it there to be washed away by the rains or devoured by insects, as it cannot be desiccated owing to the moisture of the air. The effluvia arising from this cause are of the most offensive description near their dwellings, and were to be perceived strongly on the road leading up to the German Club, and on the hillsides behind St Francis's Hospital and Spring Gardens, where they contributed to cause illness amongst the officers quartered there and the married families of the troops. A European graveyard near the hospital, containing costly monuments to officers and civilians of all ranks, was converted into an open-air privy from this custom, and was quite neglected and in disrepair. Above the old magazine quarters the Chinese had been allowed to establish a manure drying-ground, where step above step on the declivity were spread out the loathsome porcine excreta, steaming in the sun, and emitting pestilential effluvia to be carried by the westerly and easterly winds towards the dwellings of Europeans. There the proprietors attended every day to see their stocks turned over and over to the sun. Another source of miasmatic impurity of the air arises from the habit the Chinese have of burying their dead promiscuously over the country outside of a town in any spot they fancy, unlike the European practice of interment in cemeteries; and this was one cause of the unhealthiness of Kowloon. From the absence of all sewerage in Chinese towns, it results that offensive matters have all to be carried off on the surface of the soil by the rains in gutters or anywhere, whereby the earth becomes impreg-

nated by all sorts of decomposable material. A consideration of the above customs of the native population will lead one to imagine that the water of wells and rills derived from the soakage or rain-flow of these polluted areas must of necessity become contaminated by organic miasm of most pernicious nature. Yet such supplies were the ones furnished to the troops occupying Herd's Godowns, Fletcher's Buildings, and McGregor's Stores in the summer of 1865, and also for the troops stationed at Kowloon. The well of the first was at the bottom of the hill behind the building, that of the second was derived from a rill in a ravine at the backyard, of the third from a well within the premises themselves, and of the fourth from surface wells either in the cantonment or on the edge of a morass beyond. These wells were all sunk in the laterite, which is a very porous and absorbable sort of conglomerate, containing however mineral elements which are innocuous of themselves. The military hospital was supplied with water from the reservoir in the gully above where the magazine is contained, and which may be supposed to be the cleanest of any for a supply, as the watershed lay on the upper aspect of the mountain-range. The unhealthiness of the site of the Murray Barracks is due partly to the ravine running along its eastern side, which carries the drainage of the valley above it to the sea. This valley is the great washing-place of the native servants, and numerous shabby native huts line its banks, the sewage from whose inhabitants passes into the stream, as well as the rinsings from the clothes washed there. Murray's large livery-stables are also built in this valley, and the drainage from these passes into this stream above the barracks, so that this channel therefore requires frequent rains to flush it clean. In still weather a heavy air rolls down in the evening from the mountain-slopes, and gravitates, impregnated with effluvia, to the lower habitations, there to lie till the morning sun heats the ground, and causes an up-current, because there is little or no wind at night to dissipate it. Hence the European dwellers in the terraces above the town enjoy at night a better atmosphere with a current descending through their rooms from the back and out at the front windows. The exposed beach between the high and low water mark, which still shows itself to the eastward of the barracks, is fouled by all sorts of refuse brought down from the gullies and drains, or thrown over from the houses, and left to rot there. The tidal current itself is contaminated by the fluid and solid excreta from the numerous ships lying in the harbour, and especially from the junks and sampans of the water-living Chinese, who here, as at Canton, are a large community. In still weather the shore air is therefore of the foulest description, and is only occasionally purified by being drenched by rains or else shunted by a gale. It is highly charged with sulphide of ammonium, produced from the decomposing solid and fluid excreta on the land and water, which reacts so strongly on silver as to blacken watches and ornaments worn on the person, and deposit sulphur on vessels containing

chloride of lime. The common idea that the night air is more unhealthy than that of the day is founded with justice on its effects, and can easily be seen to be due to the wind or rain at that period being less prevalent, whereby all the noxious miasmata and malaria are allowed to gravitate and rest in the lower levels. Infectious emanations from sick themselves are not to be overlooked as causes of spreading disease, and they must be all the more intensified by the stillness of the air. The effect of the monsoon-winds in the town is, if anything, beneficial in purifying its atmosphere, though some constitutions will certainly prefer the drier and colder north-easter to the warmer and moister south-wester.

The obvious corrective to the bad state of the city climate will rest entirely in a good consideration of sanitary science applied to the causes of miasmata and malaria. This should become of greater moment than the cure of the diseases produced, which is an expensive measure, and never ceasing as the seasons return.

It will become imperative to insist on a separation of the Chinese from the European parts of the town, as is done at Macao by the Portuguese with good results, and to permit of no native lodging-houses being scattered amongst the godowns and private dwellings of the foreigners. Chinese servants, it may be urged, should be near their masters; and, if so, let them live in the same compound or house, so that they are under the direct supervision of their employers. The main difficulty, however, arises from the pecuniary interest European owners have in the rents of the Chinese houses, which are high and very remunerative as house-property; and, until the merchants of Hong-Kong see a way to rectify this objection, little else can be done.

The direct remedy for the abuse of the foreshore is obviously that of building a quay or sea-wall out to low-water mark along the whole harbour-face of the city, which, however, has been as yet only partly effected.

The question of open or closed drains to the town is a disputed point, and has arguments on both sides; but in favour of the latter system it may be urged, that the refuse is not exposed to the direct rays of the sun, and that the rains are amply heavy enough to flush sewers of any size. Until means are adopted for utilizing this sewage, it would be vain to attempt to discuss the subject of purifying the water of the harbour, as, independently of the town refuse, there are hundreds of European ships' crews to discharge theirs, leaving out of the question the thousands of Chinese sampan dwellers, who pour over the sterns of their own boats enough to pollute a mighty river.

From some preconceived idea it had come to pass that the promontory of land opposite the town on the north side of the harbour, called Kowloon, might be much healthier than Hong-Kong; and numerous attempts to colonize it with British troops are detailed in Dr Gordon's book and Dr Inell's able reports, and all with signal failure.

The land of Kowloon is undulating and grassy, with marshy valleys or dells intersecting it, and is composed, like that of Hong-Kong, of red laterite earth on a granite basis, with boulders of this stone on the slopes.

An inspection, however, of the locality reveals numerous graves scattered over every part of it, and the levels of the dells lately the seat of the offensive operations of Chinese agriculture. It, therefore, differs in no respect from Hong-Kong, and has besides a southern exposure, and is a recipient of the summer monsoon airs wafted from the other side of the harbour.

The troops have been cantoned there in tents and huts according to the season and extent of space available. These last have been built of bamboo framework filled in and roofed with grass and bamboo leaves, and several seasons' rains have so soaked into the vegetable tissue that it has become quite spongy, and under the sun's direct rays exhales a malarious vapour strong enough to the olfactory senses of dwellers in these frail structures.

The cantonment was virtually in the condition of an artificial marsh erected by human hands, the malaria from which produces real intermittent fever, sufficiently recognisable by the smell from the patients being of a ligneous character.

A great deal has been said and written about emanations from freshly excavated laterite being the causes of fevers at Hong-Kong, especially on the first founding of the city, when ground had to be cleared for foundations, and levelling sites, and constructing roads.

This belief is of general acceptance, so that there must be some reason for it, and this may doubtless be due to the porosity of this earth, absorbing the rains loaded with deleterious exhalations, which are given forth again under exposure to the rays of the sun.

The composition of laterite is similar to that of the underlying granite, and hence contains no sulphur, phosphorus, carbon, or nitrogen from which noxious gases could be developed.

Stress has also been laid upon this idea in accounting for the unhealthiness of Kowloon, contemporaneous with the extensive excavations for some time carried on in connexion with the conversion of that acquisition into a settlement and military and naval station.

Numbers of coolies are reported as sickening from the exposure to the work of levelling the land, which is here composed of knolls of laterite of great depth; but this may be due to the foulness of the huts they live in, which are built of bamboo and grass.

It is just as probable that these men's constitutions were impregnated by the mephitic vapours of decomposing vegetable filth, soaked with water and steaming under a tropical sun, and hence would arise the fevers, excited by exposure to work in the open air.

Nothing now seems to be so well established amongst the Europeans of Victoria as the idea of abandoning as much as possible wood in the construction of their dwellings, and substituting hard and everlasting iron and granite in its place.

Bungalows used to be built in the Indian style, but all these have been abandoned for houses and godowns constructed of stone in every part, including the balconies, railings, steps, external floorings, etc. And it would be only carrying out the idea to a greater extent to replace if possible everything of wood by iron, such as lattices, verandahs, venetians, outhouses, etc. Certain it is, that the wood used in the carpentry of fixtures about houses in this climate rapidly deteriorates, even though covered by paint, and becomes spongy and rotten, the harbour of vermin, and the source of noxious exhalations, both from its own decomposition and that of the insects that inhabit it.

A great source of tainting the air of dwelling rooms at night arises from the burning of oil in lamps, especially those of animal or vegetable source, due to their imperfect combustion, and their giving off volatile oils under heat, which, if there be no breeze blowing, soon impregnate the atmosphere of an apartment. Gas or rock-oils should only be used for lighting purposes in consequence.

The use of punkahs is so established in the Eastern tropics that it would be scarcely worth while insisting on the necessity for their continuance, especially at night, when there is little wind to waft away the animal and vegetable exhalations that gravitate in stagnant parts wherever they find a suitable locality.

A department of civilized tropical life appears at Hong-Kong to be yet undeveloped, in the scarcity of baths of any description on large scales, either for Europeans or natives. The oily, reeking integuments of the latter are never washed, and never cease exhaling effluvia; and numbers of the former have not enjoyed a bathing apparatus in their rooms, though this is now, however, constructed in all the later and better class of private dwellings in the town.

There is no doubt but that the liberal system of dieting the soldiery is founded on good practice, and is one acknowledged also in civil life in Hong-Kong, but it is certainly adverse to the custom of the natives, who live sparingly on rice, fruit, fish, and tea. On the other hand, it is more prudent to follow their habits in the matter of clothing, which should be as light as possible, and made of fine material, that the perspiration may be carried off easily by the movement of the person and of the air. The extreme humidity of the atmosphere tends to render the extrication of vapours more difficult from the lungs and skin, from its being saturated with moisture, and consequently the perspiration is apt to cling to and be deposited about the dress.

That the animal heat is retained in the body above its natural standard is demonstrated by the occurrence of prickly heat and sleeplessness at night, both exhausting the nervous system.

A curious effect of this climate on persons exposed to its influence, and not actually ill, is the production of emaciation and anæmia, due as it must be to the exhaustion of the fatty components of the tissues, and the diminution of the blood-globules. It may be caused

by prolonged etiolation, from too much confinement in-doors to avoid exposure to the heat and sun, but scarcely to want of food and stimulants, for both soldiers and civilians have easy access to them. At the same time, it may be considered whether the miasmatic air may not disintegrate the blood-globules, without producing any other manifestations of diseased action.

Though the natives do not adopt any proper head-dress, yet it has been proved advisable for Europeans to follow the usual Indian custom in this respect, in wearing antisolar helmets or white puggeries round their hats. It is also the habit to wear white clothes of some kind, particularly of cotton or grass cloth or alpaca, as being permeable to the air; but the thick flannel underdress of European climates is found to be too heavy for comfort, and should be discarded.

As it had been the custom to quarter troops in the naval hulks in Hong-Kong harbour, so the same measure was again resorted to this year on board the *Princess Charlotte*, a three-decker, and the *Hercules*, a two-decker.

The detachments on board these ships had to furnish the guards for Kowloon, and these had to remain for twenty-four hours on duty in the cantonment, and to give sentries for its various posts. This plan was tried to allow men to be as short time exposed to malarious influences as possible, yet it failed in securing them from the attacks of disease.

Few sporadic cases of fever took place on board these ships, except on the *Hercules*, which was originally rotten and foul, but diarrhoea became prevalent from foul bilge-water in the hold.

All the sickness was produced beyond a doubt from Kowloon. The men said so, and knew it; and not even the sea air had any effect in preventing its development or mitigating its progress.

It is also worthy of notice, that fewer cases of fever came from the men in Herd's Godowns than from those at Kowloon, and that the fevers from the latter soon infected the whole body of troops, as each detachment had its turn there.

A great drawback to Hong-Kong exists in the want of a hill sanitarium in the country on the mainland, accessible in distance; but nothing yet suitable has been proposed nearer than Japan, the climate of which, of course, is unexceptionably good.

The summit of the Victoria Peak has been tried for invalids, but found much too damp from mists, though cooler in the air, and is, besides, scarcely accessible for sick.

ARTICLE V.—*Case of Death from a Strangulated Ovarian Tumour.*

By LAWSON TAIT, Assistant-Surgeon to the Clayton Hospital, Wakefield.

ON August 18th I was called in consultation by my friend Mr Lorraine of Wakefield to see Mrs C., æt. 48, who was suffering

from a strangulated femoral hernia. I found the tumour of small size, that the symptoms had existed only two days, and that it was irreducible by the taxis under chloroform. I suggested a full dose of belladonna, and a delay of six hours. At the end of that period I again tried the taxis under chloroform, but without being able to reduce the hernia, so I at once performed Gay's operation, divided Gimbernat's ligament freely, and without any trouble succeeded in returning the bowel. At 7.30 on the morning of the 19th she was much relieved, free from pain, and the vomiting had quite ceased. Opium was administered freely, and iced brandy-and-water or Moselle *ad libitum*. 20th, 8 A.M.—The abdomen was slightly tympanitic, and the pulse about 140; free from pain and sickness. 8 P.M.—Tympanitis increased; ordered a turpentine stupe. 21st, 8 A.M.—Tympanitis so extreme that I entertained the idea of puncturing the intestines; temp. axill. $101\cdot6^{\circ}$; no pain or sickness, and she takes beef-tea and stimulants freely; face very anxious in expression. 10 P.M.—Mr Lorraine had seen her in the afternoon, and reported that she was somewhat better. When we met, we found that the distention was much less; there was no pain and no narcotism, as the opium had been intermitted; rectum examined per vaginam, and found quite empty; temp. axill. 101° . 22d.—In the forenoon she had two moderately-sized and very offensive stools: in the afternoon she was seen by my friend Mr Kemp (in whose practice the case occurred), who noticed, and remarked to me afterwards, that the breath had the hay odour. At 10 P.M. I saw her with Mr Lorraine, and we both noticed the musty smell of the breath. She was sinking then, and died at 8 A.M. on the morning of the 23d.

I expressed a very urgent request to the relatives that I might be allowed to examine the body; and as this was also pressed by Messrs Kemp and Lorraine, coupled with the frank avowal on our part, that although we were certain that the operation had been successful, yet that there was something about the case which was inexplicable, we obtained reluctant permission to examine the abdomen.

Twelve hours after death, I made the post-mortem, with the kind assistance of Mr Lorraine and Mr J. Kemp. The wound made to relieve the strangulation had healed by first intention. On opening the abdomen, I found the small intestines much distended with flatus. The sac of the hernia was empty and uninjured. On separating the intestines, a black gangrenous mass was observed lying in the concavity of the right ilium. On passing my hand round it, I discovered that it was a small ovarian tumour, consisting of two equal-sized cysts, one of which was totally gangrenous and so soft as to break up with the most gentle handling and discharge into the cavity a quantity of dark fetid serum; the other cyst was partially gangrenous. The tumour measured about eleven inches long and four inches in its greatest diameter, and it had a constriction between the two cysts. Its base was slightly glued to

the brim of the pelvis; but, with this exception, there was no peritonitis—a fact which I had diagnosed on the ground of the lowness of the temperature. The tumour lay across the transverse diameter of the pelvis, the left end being buried in the pelvis, while the right lay over the brim on to the ilium. It was the right-hand cyst which was totally gangrenous.

When I passed my hand down the pedicle, I found that it was long and thin, and twisted on itself, feeling more like an injected umbilical cord than anything else with which I am acquainted.

I remarked to my colleagues that the pedicle was twisted, and, keeping it in my left hand, with my right I slowly untwisted it, by rotating the tumour until the pedicle was straight. To do this I had to alter my grasp of the tumour nine times; that is, the pedicle had been twisted by four and a half revolutions of the tumour. It was the right ovary which was diseased.

As some of the relatives were onlookers, we were prevented from proceeding to examine the other viscera, although I question if we should have found much, save the ordinary pathological appearances of mudanemia.

In this case we have one of the most extraordinary accidents with which I am acquainted; and one which is, as far as I am aware, unprecedented. What the mechanism was which produced this curious revolution of the tumour, I am unable even to suggest; but there can be no doubt that the unusual shape of the tumour assisted to bring about the disaster. It had never been suspected that she suffered from disease of the ovary, and, on looking back on the case, I derive some comfort from the belief that it was not possible to diagnose the condition. Had it been possible, the treatment would have been very easily decided upon.

ARTICLE VI.—*Removal of a Large Uterine Fibrous Polypus.* By J. MATTHEWS DUNCAN, M.D., Honorary Member of the Medical Society of Norway.

(Read before the Edinburgh Obstetrical Society, 10th November 1869.)

MRS B., from Orkney, was recommended to my care in the Royal Infirmary, by Dr Thomas Keith. She is aged 44 years; is married, and has had one child, fifteen years ago.

Twelve years ago, she first felt a lump in the lower belly. It has given her much pain. Sometimes she has attacks of very specially severe pains, which last for variable times, and are not accompanied by fever. Till last winter, her monthly periods have been regular; then they ceased; but latterly she has again been regular in this way. Ever since she felt the tumour she has had a profuse thin purulent discharge. In the early years of the disease

she had profuse floodings more frequently than in the latter; but just lately the bleedings have occasionally been very great.

1st September 1869.—Examined to-day. She is pale, anemic, and very sallow. In the hypogastrium is found a large prominent mass, which rises considerably above the umbilicus. There is one rounded tumour, with uniform smooth surface, whose upper border reaches the navel; and above this, and connected with it, are several smaller tumours, each about the size of a large hen's egg. Per vaginam, a rounded free lump can be felt occupying the pelvis, as the mature foetal head does in the beginning of the second stage of labour. The os uteri cannot be felt. On the surface of the tumour, at a distance from its lowest part, and about as high as the finger reaches, short lip-like projections can be felt. The finger pressed between these and the mass of the tumour separates them to a slight extent, lacerating what feel like loose adhesions. There is a constant very copious thin purulent discharge, and besides, during examination, there escapes an occasional small gush of viscid fluid like that from an ovarian cyst.

21st September.—Assisted by Dr Thomas Keith, I proceeded to attempt the removal of the large tumour. The hand introduced into the vagina was passed by the side of the tumour as high as the umbilicus. The tumour was found to be connected to the uterus by a broad large base, probably a little less than the surface of a transverse section of the tumour (or of a large foetal head in a vertical direction). The tumour was now seized by strong volsellæ, and dragged with all the force that could be applied, but without effect; the perineum being stronger than all our efforts. We failed to pull it out. A large and strong curved ecraseur was now used. The noose was passed around the tumour as high as it could be pushed, and the instrument worked. It soon gave way, and was removed. Now it only remained to remove the tumour either piece by piece or by so cutting it as, while removing it, to avoid completely detaching the removed part, that is, by a spiral cut. In imperfectly carrying out this last plan, the removed part was repeatedly torn off the part remaining in the vagina. As the removal in this way progressed, the projecting œdematous lip-like parts were brought into view. They were easily identified as swollen bits of the edge of the capsule, which did not cover the tumour lower down than them. Besides now dragging and spirally cutting the tumour, the capsule was detached and pushed back. At last the whole tumour was removed. It was torn away, and enucleated at the base. Its attachments were not cut through. A flap of investing capsule as big and thick as the hand was now found hanging from the uterus; it was removed by scissors. There was very little bleeding. The perineum was considerably lacerated. The proceedings occupied an hour and a half.

There was great exhaustion after the operation. But the woman made a good recovery, uninterrupted except by a rigor on the

evening of the third day, whose effects lasted for twenty-four hours. During convalescence, there was copious purulent discharge from the vagina, but it gradually lessened, and when she left town about a month after the operation, it was greatly reduced in quantity. The swelling of the belly was quite gone, and the small tumours could just be felt on pressing deeply from above into the brim of the pelvis. The tumour was an ordinary fibrous tumour; it weighed 2 lbs. 6½ oz. Its lower presenting end was bare. A considerable part of the capsule still adhered to it. The œdematous lip-like parts were ascertained to be parts of the lower edge of the investing capsule, where the tumour protruded through it.

In this case of enormous polypus, the operative difficulty did not lie in reaching or cutting the attachment of the tumour. To effect this, as a beginning of the operation, would, no doubt, have been almost impossible; but the operation was finished without cutting through the attachment: and separation of the polypus from its attachment at the beginning of the operation would not have facilitated further proceedings in any considerable degree. The whole difficulty of this operation lay in the great bulk of the tumour, or, what amounts to the same, in the smallness and indilatability of the orifice through which it had to be brought. We tried to pull it over the perineum, but failed. Had we succeeded, it would have been effected only with great laceration of the parts. To reduce the bulk of the tumour, then, was essential. Several plans for doing this have been proposed. Lately, Dr Simon,¹ of Rostock, has practised a method which he calls "operative elongation," and which consists essentially in making, by scissors, deep incisions; cutting through the capsule transversely at various parts. When this is done, the tumour elongates under traction, and its removal can be managed. But the plan proposed and practised by Dr Alfred Hegar,² of Darmstadt, seems to me to be more simple and efficient. It consists in cutting the tumour spirally, so as to make it somewhat resemble the child's toy which consists of a piece of ivory cut spirally, so that it can be drawn out to a great length. Both these operations are more easily described than performed. In the case which I have narrated, I attempted, as far as possible, to effect the spiral cut; and though the spiral was repeatedly broken across, the method was useful in effecting the elongation of the tumour, and its consequent diminution in bulk in those measurements which affronted the vaginal orifice.

Both Drs Simon and Hegar regard their procedures as having for their object to reach the pedicle or insertion of the tumour, in order to cut it through. But this is not the proper view to take of them. It is not always necessary to cut through the insertion or pedicle, as Drs Simon and Hegar seem to think. This case illustrates this point. Besides, when the plan which I followed in this case, can be adopted, it saves a risk of grave error, into which Dr

¹ *Monatsschrift für Geburtsk.*, Bd. xx. 1862, S. 467.

² *Ibid.*, Bd. xxi. 1863, S. 220.

Hegar has fallen. This consists in cutting through the tumour, taking it for the pedicle; thus leaving in utero a part of the tumour, which may be a source of danger in various ways, or demand renewed interference.

The method of removing large fibrous polypi by spiral incision may be advantageously followed in the more difficult operations of removing, by avulsion and enucleation, imbedded fibrous tumours.

ARTICLE VII.—*The Medical Council and its Critics: A Re-Vindication.* By ANDREW WOOD, M.D., F.R.S.E., F.R.C.S.E., Member of the Medical Council.

WHEN I ventured “to take up the cudgels” in defence of the Medical Council against its critics, I had counted the cost. Had I been thin-skinned or ignorant of the craft, I could not have faced them; but as I have been steeled against criticism by a good many years’ experience, and, like the eel, have become accustomed to the process of critical skinning—as I happen, moreover, to know something of the arcana of criticism—and, above all, as I feel that I am honestly and to the best of my abilities advocating a just cause—I have dared to encounter even such a formidable host as the critics. I defend the Medical Council because I consider that it has without cause been, as the Germans express it, *geringgeschätzt*, that is to say, in the vernacular, lightly esteemed; and that its labours and their results have not only not been appreciated as they have deserved, but have been unduly disparaged and misrepresented. I wish the profession and the public to know both sides of the question, that they may not judge the Medical Council from—to use again a German word—an *einseitig*, or one-sided point of view. My anxious wish has been to say only what is strictly true, and to “nothing extenuate, nor set down aught in malice.”

I knew pretty well what I had to expect at the hands of the critics—some of them at least. It was not a fair hearing,—it was not a disposition on their part to appreciate the meritorious acts of the Medical Council, as well as to fix unmercifully on everything like a fault or a blot in its career,—but it was a consistent or rather persistent continuance in the determination *quo jure quaque injuria* to cavil, to carp, to find fault, and to hunt down, if possible to the death, a body which has never found favour with them; which has never, I maintain, met with justice from them, and which by sneers and jeers and misrepresentation they have endeavoured, in some quarters it would appear not unsuccessfully, to hold up to ridicule and obloquy, if not to contempt. If my reply be made, not “with bated breath and whispering humbleness,” but somewhat indignantly, they have no right to complain, they are not wont to speak themselves in mincing phrase of the Medical Council. In short, I might say to them, “Dost thou think be-

cause thou art virtuous there shall be no more cakes and ale? Ay, by my faith, and ginger shall be hot i' the mouth."

What kind of Medical Council, I wonder, would satisfy those very critical critics—unless, indeed, it be one composed of the journalistic critics themselves—that harmonious band of brothers, who, of course, in their meetings would know nothing of "personal reflections," nothing of mere "talk," nothing of "vacillation or procrastination,"—oh no! they would sit *then*, as they sit *now*, masked, *au secret*, a happy family, the very impersonation of harmony and love. We all know what witty Sydney Smith said of Lord Russell, viz., that he would take the command of the Channel Fleet with or without ten minutes' notice, that he would undertake to give a plan for a cathedral rivalling St Peter's, or that he would cut for the stone. But our critical Medical Council would be not less plucky, I opine. They would off-hand double up the Pharmacopœias of three nations—yea, off-hand perfect a British Pharmacopœia, with or without "a single editor," and without delay and expense,—they would, in a trice, establish and preserve accurate and purge from ill-doers the Medical Register as a piece of simple clerk's work, requiring little trouble and less brains,—they would at once, as if by "instinct," as Falstaff hath it, issue educational *ukases* without consulting any one, and without going to the very unnecessary trouble and expense of taking evidence beforehand. They would not, of course, condescend to communicate with the Licensing Bodies, or to enter into argument with those who might venture to dispute their *fiat*, but with them it would be—"Obey our behests at your peril, or we shall at once 'represent' you to the Privy Council for suspension." Under their *régime* there would be no longer lax Examining Boards, no longer incompetent men sent into practice. The public might then expect to have the services of none but perfect practitioners, shining lights, only "paling their fires" (not "ineffectual," however) before the brilliancy of the critics themselves—the grand, supreme, infallible Medical Council.

What a glorious millennium for our profession! Men will wonder, then, that we should so long have tolerated the Cimmerian darkness of that time when the abused Council of twenty-four, including such mere botchers as the Brodies, and the Greens, and the Symes, and the Stokes, and the Christisons, and the Corriganes, etc., ruled the profession. By a stroke of the wands or gray-geese quills of the critical magicians, the most marvellous and rapid effects will doubtless be produced—just like those dissolving views which one sees at the Polytechnic—and such a perfect profession will then under their benign auspices have been called into existence that they will soon have nothing for themselves to do as a Council. Their meetings will be few, short, silent, inexpensive; they may be expected to meet more *pro forma* than anything else—perhaps they may dine, and then complacently adjourn. These will be the halcyon days of economy and "happy despatch."

But a truce to banter, and let us look with a little more serious-

ness into the remarks of the critics drawn forth by the "vindication" which I ventured to send forth: "a poor thing," as William in the Forest of Ardennes says, "but mine own." And first, let me put the question, "What is a critic?" The proper definition of the term is, I fancy, this—"One who is *capable of discriminating the beauties and the faults* of what he criticizes, and who *does it*;" but (for I have looked into the dictionary) there is another definition of a critic, or rather several other definitions of the term, viz., "a caviller," "a carper," "a censurer," one, in short, whose vocation it is steadily to ignore the merits of that which he criticizes, and as steadily to devote himself to the ungracious task of picking holes in it and scraping up its defects as certain snouted animals grub up truffles. I fear me it is in the latter spirit that the relentless critics of the Medical Council have hitherto, and it would seem still continue and mean to continue to criticize (save the mark!) that *bête noire* of theirs, the Medical Council. They have too long had their full swing, without any pains being taken to state the case for the Medical Council, or to undeceive the public as to the fallibility of the judgment of the critics, not to say their unfairness. Doubtless they have vast advantages on their side in their masked batteries—their constant opportunities of attack—in the large circle of readers whom they reach—in holding, in short, in their grasp the mighty power of the press; whilst the criticized have to face openly the public, and have few opportunities—unless stung into making them for themselves, as I do now—of rebutting these attacks, vague, groundless, and unfair as they very often are. Let us see how they have answered the facts and reasonings of my humble "vindication."

They do not—because they cannot—deny that vast improvements have during the reign of the Medical Council been introduced into the training and testing of candidates for medical qualifications; that now the profession, by means of the preliminary examinations and register of medical students, is universally barred against illiterate persons; that the extension, increased stringency, and greatly more practical character which is given now to the professional examinations, has tended to exclude from the profession in greatly-increased ratio incompetent persons. But it would seem, according to these envious critics, that it is not the action of the Medical Council that has had anything, or at least much, to do with this manifest, this undeniable improvement; that it is "public opinion," that wonderful but mysterious potentate, which has had the chief merit in all this. But I would ask, Had we not "public opinion" existing in the pre-Medical Council times? Did "public opinion" hinder the then unsatisfactory state of matters? and was it not exactly because "public opinion" had so failed that medical reformers, and none more loudly than Messieurs the critics themselves, called for legislation as the only method of curing evils, which then unquestionably, from whatever causes, did exist. I have said in my "Vindication," and I say it again, and I challenge the critics to gainsay it, that to the action of the Medical Council, and to it mainly,

is it owing that a much better state of matters exists *now* than *then*, and that that improvement under the same influence is now proceeding in a geometrical ratio. There are circumstances occurring at this very time which are significant and of good augury : such are the nearly universal adoption of clinical examinations by the Licensing Bodies, and the probability that within a very short period they will have been universally adopted,—the universal adoption of preliminary examinations in general education by the Licensing Bodies—the negotiations which even now are going on with the view of concentrating and amalgamating the Examining Boards. With these important movements the Medical Council has had much to do ; nor are their efforts in forwarding needed reforms relaxed, or likely to be relaxed.

The Medical Council has still a goodly amount of vitality in it, notwithstanding the endeavours on the part of the critics to extinguish it. I venture to predict that its existence will be sufficiently prolonged to enable it to mature and promulgate a complete scheme of Medical Education and Examination, which, once accomplished, will leave little to be done by the coming miraculous and infallible Medical Council, whether of the critics or others, who are destined to, or at least would if they could, supersede it.

I trust that the Members of the Medical Council are made of sterner stuff than to be snuffed out like poor Keates, the surgeon and poet, by critical articles. Let them persevere in their laborious efforts to fulfil the objects for which they exist ; and if success do not crown their efforts, they will, at all events, have deserved success, whatever some disingenuous journalists may say. Let them not be discouraged. This they may depend on, that amongst the ranks of the profession there are those watching their proceedings, who are more kindly and more fair critics than the wielders of the redoubted *we* have shown themselves to be, and that by them they are better appreciated. For myself—if I may be allowed for a brief moment to allude to my humble self—I can say that nothing in my professional career has gratified me more than the spontaneous and kindly words of encouragement to the Medical Council to pursue the even tenor of its way which have reached me from various quarters, “outside the Medical Council,” since my “Vindication” was published. The Medical Council, whose task has all along been difficult, in consequence partly of the nature of the task, and partly of the imperfections of the Act of Parliament under which they are constituted, have still considerable difficulties to surmount ; but the very fact of their having had for years to grapple with difficulties, of which—as I have endeavoured, I trust not unsuccessfully, to prove—they have already surmounted not a few, seems to fit them to grapple with those which still remain to be overcome, at least as well, if not infinitely better, than any brand-new Council that could be suggested. If the profession generally will but give the Medical Council that fair amount of support and confidence which, despite the critics, I venture to think they deserve, there is

reason to hope and expect that rational medical reform may be carried out, and all its legitimate objects secured, better and even sooner than if—moderate counsels despised—it be sought to effect them by a more revolutionary course of legislation, instigated by inconsiderate agitators, involving, it may be, the crippling, or even destruction, of existing institutions. I do not say that amendments of the Medical Act are not needed; they are very greatly needed, and might long ere this have been obtained, had the Government chosen, at the instigation of the Medical Council, to take up the question as I conceive they ought to have done. I do not deny that some modification of the Medical Council is desirable. On the contrary, I have for several years urged this point. Various plans have been suggested. Some would diminish the number of its members; but that would infer disfranchisement, and disfranchisement of bodies at present represented would not be an easy matter. Some have suggested an addition to its numbers, in the form of members elected by the suffrage of registered medical practitioners residing in conveniently-arranged electoral districts. This is the plan which seems to me the most feasible and the most likely to give satisfaction. Thus, as appears to me, the profession would come to have a more personal interest in the deliberations of their own Parliament. To such a Council larger powers might be granted than the present Council possesses, and also an enlarged sphere of duty, especially as regards sanitary measures. Nor need such a constitution of the Council lead to lengthened sittings and increased expense. Limit the sittings of the General Medical Council to a certain number of days, as is the case in regard to the General Assemblies of the Presbyterian Churches of Scotland—a system which works well—reduce the fees of attendance, and let the business which may not be overtaken during the stated sitting, and which, by proper management, might be made to embrace various items of less importance, be delegated to an Executive Committee—say of ten, in which the three nations should be represented in due proportion, and in which the Universities, the corporations, the Crown nominees, and the popular representatives should also be duly represented—let this Executive Committee be elected annually, as in the case of the present Executive Committee, by ballot of the whole members of the General Medical Council; such, or some such arrangement, might tend to reconcile contending interests, and to constitute a Council on a broader basis than at present, and which might be satisfactory to the profession and to the public. With regard to another plan, which has been propounded chiefly by Dr Prosser James,—viz., to keep the numbers of the Council as at present, but to give the suffrage for corporation representatives to all the members or licentiates of the corporations; for university representatives, to all the graduates of universities,—this would be, as appears to me, to constitute very unequal and, in general, very large and unwieldy constituencies scattered here and there and everywhere, amongst whom

there would be no cohesion, no power of mutual consultation, and the gathering of whose votes would be difficult and very costly besides. I, for my part, would infinitely prefer a residential suffrage of registered practitioners for the election of a certain proportion of the members—say one-fourth. The Council might then consist of nine representatives of the Medical Corporations, eight representatives of Universities, six Crown nominees, eight representatives elected by residential suffrage of registered practitioners divided into convenient electoral districts, containing constituencies as nearly as possible equal in number, and of the President, to be elected as at present by the Council itself, making the number of the Council thirty-two. This is not too large a number for a deliberative body, considering that it represents so many varied interests, and has to discuss questions of so great and general importance, and requiring much deliberation, and especially if, as suggested, a considerable part of its duties as an Executive Council be remitted to a smaller Executive Body elected as already suggested. Let the Fellows of the Colleges, as is the case with most of them at present, elect their representatives; and for the Universities, let University Bodies of moderate proportion elect their representatives. Let the Crown nominees remain six in number as at present—an important body, who may be considered as sent there by the Crown to guard the interests of the public. It has often occurred to me, that were three of the Government nominees to be the Director-General of the Army Medical Department, the Director-General of the Navy Medical Department, and the Medical Officer of Health to the Privy Council, that would be a very convenient arrangement, and would tend greatly to increase the influence and the efficiency of the Medical Council, and bring it into salutary communication with the Government in a very useful way. These hints I venture to throw out as *memoires pour servir*, as it were, in compassing the task of reconstituting the Medical Council on a more popular basis. The constitution of the Council was always a knotty point in the old pre-Medical Act times. Surely, in the light of more than ten years' experience of the working of the Medical Act, it should not be a knot so very difficult to untie now. There is one thing which I trust will be strenuously resisted by the universal profession, however they may differ in their views as to the best constitution of the Council—viz., the proposal, which I understand has been made in some quarters, to establish a small Crown-nominated Council, who shall regulate the Medical profession—be, in fact, dictators, overriding all the present time-honoured institutions. Against this deprivation of the birthright of the Medical profession—against this fatal blow to the system of self-government—against this subjecting of the profession to a centralised bureaucracy, I would emphatically protest.

I would strongly urge, that the question of the amendment of the Medical Acts should be taken up by the Government and made a Government measure. It is not one which should be left in the

hands of private Members of Parliament, volunteering amateur legislation on a subject with which they must be practically unacquainted, and regarding which their knowledge is apt to be derived from *ex parte* statements. Better far than this would be a Royal Commission, as proposed by Sir Dominic Corrigan, or a Select Committee of the House of Commons, although either of these alternatives must necessarily lead to inconvenient delay. In many respects the present Medical Act has been found to work well, and the points on which it requires amendment, however important, are not very numerous. The Lord President of the Council, to whose department the matter seems now to have been relegated, if the points were fairly put before him, especially after the discussions of the last few years, should have no great difficulty, with such professional aid as he can easily command, in founding upon the information which has already been afforded to Government, and is about to be still further afforded both by the Medical Council and from other quarters, the preparation of a bill which might for many years settle the vexed question of Medical Reform. Let me only say, in conclusion, that the notions of some persons as to what legislation can effect for the medical profession are sufficiently Utopian. Jupiter may indeed give us help, but we must ourselves put our shoulders to the wheel. The prime movement must and ought to originate in, and be sustained by, the profession itself, acting through its own organizations. Nor should the lessons of daily experience be lost upon us; for, as the results of political reform are found on trial to fall infinitely short of the sanguine expectations of political reformers, so under even the most favourable circumstances may it be expected to be the case also with regard to Medical Reform.

ARTICLE VIII.—*On Unilateral Convulsions, Localization, etc.* By ALEXANDER ROBERTSON, M.D., Physician to the Town's Hospital and City Parochial Asylum, Glasgow.

By carefully collating the phenomena of localized convulsions in a series of cases, especially in relation to morbid changes in the central organs of the nervous system, when these are observable after death, we may hope gradually to elucidate the laws which govern the occurrence of this condition and regulate the order of succession in which muscles, or groups of muscles, are involved. A comparison of symptoms, with alteration or destruction in nerve-centres, also throws light on the normal functions of the parts implicated, both positively and negatively. Positively, as, should any particular function or faculty be disordered or lost, we conclude that it has been more or less associated with the special part of the centre affected; negatively—and this even more clearly—as when, with the destruction of a part, say of the brain, a faculty, such as speech,

is but little impaired, we infer that it is at least not essentially connected with that portion of the organ. We have here indicated fields in which there is still much ground to cultivate, even though many competent observers have already laboured in them well and to good purpose. In this connexion, the following contribution is submitted; and I now proceed to describe the cases which, as will be seen, illustrate the foregoing remarks and suggest the concluding observations.

CASE I. Alternate Right and Left Unilateral Convulsions and Hemiplegia; Trephining; Left Hernia Cerebri; no Loss of Speech; Death after Six Months; Autopsy.

Thomas Scott, age 43, waiter, first came under my observation in this hospital on the 1st August of last year, suffering from necrosis of the skull, the result of a fall into the hold of a ship about fourteen months previously. The report then taken bears—"that the dead and exposed portion of bone is about two inches in length and one and a half in breadth, and is situated for the most part, but not entirely, to the left of the middle line, just above the lambdoidal suture. He sometimes complains much of headache; but, though depressed in spirits, his mind is clear, and he gives a very intelligent account of his condition. His general health otherwise is pretty good, and no constitutional disease is apparent or admitted. His urine is healthy."

The details of treatment until the 3d September, consisting principally of counter-irritation, need not be given. On that day I saw him at 2.30 P.M., when I found that he had completely lost the power of the left arm and leg. The sensibility of these parts was also much impaired, and was disordered in the upper arm and left side of the face, so that, when pinched there, he said, "You're burning me." The special senses were unaffected, save that smell was duller than formerly. A sensation of swimming in the head was complained of. The nurse stated that he had four convulsive seizures in the course of the morning, each lasting about ten minutes; and, of her own accord, she added that they were confined to the left side. About 6 P.M. of the same day, I was informed that the convulsions had recurred; and on my arrival in the ward a few minutes afterwards, they were in full progress. The left (the palsied) side was alone affected; the right half of the body being unimplicated, except the abdominal muscles and the sterno-mastoid, but the bellies of these right muscles, moving consentaneously with the corresponding left ones, were distinctly less firm than the latter. The head lay on the left side, and when forcibly turned so as to rest on the occiput, it immediately reverted to its original position when let alone. The eyes diverged decidedly to the left side; the left pupil was dilated; the right, normal. The contractions were regularly spasmodic, the same muscles being in action at each spasm; for instance, in the face, the levatores anguli oris and the zygomatici elevating and everting the angle

of the mouth rather oftener than once in the second. After standing by him for a few minutes, I noticed that the right leg was becoming affected, jerking simultaneously with the left; but at first the muscles of the calf were not nearly so firm, when contracted, as those of the left one. About five minutes later, while feeling the pulse, which was small, and 140 per minute, the muscles of the right arm began to contract spasmodically. A few seconds afterwards, those of the right face also; and then, in fact, the convulsions were general throughout the entire body. It was, however, very evident that the muscular contractions on the right side were the more powerful; in the limbs, by their greater firmness, and in the neck, by the fact that the head slowly and spontaneously rotated on its axis from the left till it lay on the right side. The eyes performed a similar movement, diverging to the right; and the winking of both eyes was much more forcible than before. The mouth stood about half open, all the muscles around being rigid; but it was now drawn to the *right* side. These general convulsions did not last above two minutes; they ceased on the right side, and then, the left convulsive movements continuing, the head began once more to rotate slowly, till, as before, it lay on its left side. Spasmodic contractions, confined to the left side, except the muscles formerly mentioned, which moved consentaneously on the right, continued till 8 P.M., when, while they had not yet ceased, though somewhat moderated, the operation of trephining was performed through the exposed bone. The two tables of the skull were nearly completely separated from each other, vascular granulations intervening. The first portion of the inner table excised was sound; a second circle of bone was then removed from the lower angle of the exposed surface, giving vent to a few drops of fetid pus. The dura mater opposite this point had a dark, rather sloughy-looking appearance. By this time he had recovered consciousness, and the convulsions had ceased. No further operation was therefore performed. He slept a little during the night, and at my visit next day expressed himself as feeling much relieved, although there had been one convulsive seizure, lasting five minutes, and affecting the left side alone.

The notes, which were taken daily for some time, record that both motor and sensory power—the latter being tested by the compasses—were rapidly recovered on the left (the palsied) side, and that his general condition was very favourable. A few days after the operation, he was able to get up and sit by the fireside a part of the day; and on the 24th it is noted that there is scarcely any evidence of weakness in grasping with the left hand, or in moving the leg of that side, though he was not asked to walk above a few steps. There were, however, at this time, two unpleasant symptoms—frontal headache, and a great impressibility to sharp or loud noises. But, with these exceptions, his condition was satisfactory, and continued so till the 16th October, on which day, without premonitory symptom—on the contrary, he had been cheerful and jocular in the morning—his right extremities became convulsed,

the movements beginning by a tremulous motion of the hand. The convulsions continued for about two and a half hours, and occasionally, when severe, affected the left side to a slight extent. After they had ceased, it was found that the right side was partially paralyzed, the arm being worse than the leg. This seizure left his mind confused, he said, even though all ordinary questions were answered readily and correctly. He was now put on the bromide of potassium, gr. xx., thrice daily. On the 1st November he had another seizure, the movements being confined to the right side of the face and neck, the right sterno-mastoid being markedly affected; and afterwards, while standing by, he himself directed my attention to the fact that his right leg was moving spasmodically. No further convulsions occurred during this month or December; but he gradually became absent and confused in mind; he sometimes wet the bed; and the palsy of right extremities was almost complete. Meanwhile, the left arm and leg continued well. On the 15th January, a soft, elastic tumour, about the size and form of a hen's egg of small size, was noticed projecting from the opening in the skull. At the same time he became more intelligent, and partially regained power over the right arm and leg. This improvement continued till the 31st current, on which day I was called to see him at 10 p.m., my assistants, Drs McKellar and Lambie, being present. I found that he had just emerged from a convulsive seizure; and after a few minutes another one occurred, affecting the left arm, leg, and head, the eyes being turned to the left side; consciousness was unaffected. There was a third seizure after a short interval; and while convulsed, I asked him if he knew me, to which he answered, with a firm voice, "Yes, I do." This time the right (palsied) side was involved. The head and eyes diverged to the right, and the pupils were dilated; there was winking of both eyes, but it was noticeable that the right orbicular muscle was the firmer on contraction, as were also the right abdominal muscles. With frequent, but imperfect, intermissions of a few minutes, the convulsions continued till 12.30 a.m., and were limited to the right side, except when severe there, when the left leg moved contemporaneously with the right; and sometimes also there was slight twitching of the left arm. Generally speaking, the contractions were more decided in the right arm than the right leg. As a rule, they began in the muscles of the face, the right orbicularis palpebrarum being first affected, and afterwards the levators of the angle of the mouth. On several occasions they were limited to the side of the face. In the later fits the eyes did not diverge so much to the right as at first. After the first few attacks he became insensible, and continued so till their close.

Though I had not much doubt that the tumour was simply a hernia cerebri, I thought it possible that a little pus might be pent up under the convolutions of the extruded brain; and therefore, shortly after my arrival at his bedside, I proceeded cautiously to incise the membrane, and then passed the flat end of a probe for

about an inch into the substance of the swelling; but only a small quantity of blood escaped, and there was no subsequent abatement of the convulsions. On the following day (1st February), the surface of the tumour was in a sloughy state, and patient's mind was very confused. On the 3d he talked incoherently and was somewhat excited; but he became calmer in about twenty-four hours, and continued tranquil till the 18th, when he was seized with convulsions of the right side, which lasted four hours. At my request Dr McKellar examined the temperature of the two sides, and the following is his note:—"Right side convulsed, left side flaccid; seven minutes of the thermometer on right thigh, $100\cdot2^{\circ}$; seven minutes on left thigh, $98\cdot2^{\circ}$; twelve minutes in right axilla, $100\cdot8^{\circ}$; twelve minutes in left axilla, $100\cdot2^{\circ}$. On the 23d, though he understood and answered simple questions readily, it was evident that his memory was much impaired, as he could not remember my name, nor how old he was, nor how long he had been here; he was also much depressed in spirits. The right arm and leg were completely paralyzed, and the sensory power was very deficient, particularly in the right leg. He still used the left arm and leg with much freedom. The brain-substance continued to protrude at the cranial opening, and to be thrown off in a sloughy state. On the 11th March the extra-cranial part measured two inches in length, one inch and a half in breadth, and one in depth. After this he became rapidly worse; but he was able to speak, though, for the most part, incoherently; and on the day before his death, which occurred on the 16th of the same month, he muttered some words indistinctly on attempting to reply to my questions. There were no convulsions during the last few days of his life.

Autopsy forty-eight hours post mortem.—The dura mater was adherent all round the opening in the skull, except at its lower angle, where a few drops of pus intervened. Away from this point the membranes were healthy in appearance, and the brain, generally, was firm and rather deficient in blood. There was a deep cavity in the parietal lobe, capable of holding about three ounces of fluid, its inner border being close to the superior longitudinal sinus, but not communicating with it. At its bottom there was a little semi-fluid brain-substance, but there was no induration such as I have seen forming the walls of abscesses in the brain; on the contrary, the parts in the neighbourhood were softened. In the right hemisphere, just behind the ascending parietal convolution, on the postero-parietal lobule, there was a superficial, softened, and eroded spot, about the size of a shilling. No other abnormal condition was observed, except a small spot, not larger than a fourpenny piece, nearly opposite the middle of the right parietal bone, where the dura mater was thickened and adherent to the skull. Both kidneys and liver were somewhat nodulated, but not to a great extent; the heart was sound.

CASE II.—*Unilateral Convulsions followed by Hemiplegia.*

Cath. Wilson, age 59.—This woman had suffered from headache,

and had been weak in mind for several months previous to her admission, but was quiet and harmless, and able, to some extent, to attend to her domestic duties. On the 14th January of this year, she was seized with general shaking and nervousness; and when I saw her shortly afterwards, she had become unconscious, and was convulsed on the right side. At first the movements were confined very much to the right leg, but in two or three minutes the arm of that side and its pectoral muscles became involved. At this time neither the facial nor abdominal muscles were affected, but very soon the right face and the entire abdominal wall were spasmodically contracted; and in the latter case I could scarcely distinguish any difference between the degree of firmness of the two sides. The contractions of the facial muscles of the affected side were very decided, the angle of the mouth being drawn far round towards the right ear. The right orbicular muscle twitched in unison with the other muscles; the left eye was open, and there was no contraction of its sphincter muscle; both pupils were dilated and insensible to strong light; the eyeballs were turned very much to the right side, and so was the head, considerable force being required to place it straight on the pillow. During the more severe convulsive movements, the left sterno-mastoid was involved in the spasms; but, as a rule, the left side was not implicated, except in the abdomen. The convulsions lasted about one hour and a half; and when they passed away she remained unconscious, and it was found that the right side was quite palsied. There were no reflex movements on tickling or pinching either lower extremity; but on touching the conjunctiva and the margin of the right eyelid, there was a scarcely appreciable response, while the same stimulus applied to the corresponding parts of the left eye was immediately followed by a decided contraction of the left orbicular muscle, and a distinct, though less forcible, contraction of the right one. At this time she could swallow only imperfectly.

There was little apparent change in her symptoms till her death on the 19th of the same month, except that, on the 17th, she moved the right hand and foot a little in my presence; but she appeared to have lost the power of the left extremities, though, from her unconscious state, their condition could not be ascertained with certainty. A post-mortem examination was not permitted.

CASE III.—*Hemiplegia followed by Unilateral Convulsions ;
Retention of Consciousness.*

James Rylands, age 63.—This patient had been palsied on the left side for about three weeks, and was very confused in mind, but there was no special feature till the 9th September of this year, when he was seized with convulsions on the palsied side, which were stated to have affected both arm and leg; but when I saw him, about half an hour after their commencement, they were limited to the flexors of the left forearm. However, while taking a note of his condition by his bedside, the flexors of his upper arm became

affected spasmodically, and the limb was raised by their contractions, about once in the two seconds, a few inches from the bed. No other part was implicated—the face, body, and legs being all carefully examined. His mental condition was apparently not worse than previously, as he told me his name when I asked him, though somewhat indistinctly, and gave other indications of consciousness. He has had no return of the convulsions.

CASE IV. does not present any special features, so that a few words regarding it will suffice. It is that of a woman, age about 24, who has been epileptic and paralytic on the right side since she was a young girl. She can walk about lamely, but the right arm is shrivelled and useless. Her articulation is indistinct. The epileptic fits occur every few days, and sometimes oftener. I lately saw her in one, when the spasmodic movements were confined to the palsied limbs, the face not being involved. She was quite unconscious. Like many epileptics, she is extremely irritable.

Observations.—1st, May hemiplegia arise from a superficial affection of the brain without disease of the deeper parts?

This question has been much discussed; and it is still held by many, that in cases where one-sided palsy had apparently no other origin, a careful examination would have revealed softening or other abnormal condition of the central ganglia. I have remarked that, in Scott's case, there was temporary hemiplegia of the left side, and that after death there was only a trifling superficial lesion to be observed in the opposite hemisphere, besides what appeared to be an old adhesion of the dura mater to the surface of the skull, of small extent. But then he survived some months after the palsy of that side had passed away, so that, *possibly*, a deep-seated alteration of tissue may have disappeared in the interval. As, however, there was no evidence of such lesion when the brain was examined, it is more likely that there was no other focus of irritation in that hemisphere than the one observable after death on the surface of the brain, and that it had been the cause of the convulsions,—the irritation having been propagated to the great motor centre,—and possibly of the palsy also, through the damage done to the upper extremities of some of the conducting fibres conveying the mandates of the will from the hemispherical ganglia to the corpus striatum. But I am inclined to think that the late Dr Todd was correct in supposing that severe and protracted convulsions may themselves, in some instances, be causative of palsy of a few hours' or days' duration through simply the exhausting influence exerted on the cells of the central ganglia, without much, if any, appreciable change of tissue. This explanation is especially applicable to some of the cases of hemiplegia¹ following epilepsy, in which the paralysis

¹ Since writing the above, a case has occurred to me which shows how very evanescent loss of motor power may be after epilepsy:—An elderly gentleman was seized during worship in the church which I attend with a "fit;" but by the time I had reached his seat—about a minute after the commencement of

passes away in a few days; in other cases, however, the symptom is more probably the result of a small effusion of blood.¹

2d, In Cases I. and III. consciousness was retained when the convulsions were limited to a small number of muscles; but when the entire side was affected at all severely, it was always in abeyance. It would seem that the proximate cause of the convulsions was confined to the motor centre in the first instance, acting on it either partially, or, if generally, only in a mild degree, and that when it became more energetic there, it immediately extended to the hemispherical ganglia. Up to a certain point convulsions may apparently exist alone, but, beyond that, the mind must needs be involved.

It is interesting to observe in different cases how the morbid action is occasionally very much limited to one main centre or other of the cerebro-spinal system, without passing beyond it. We have seen that, in Cases I. and III., the factor of the convulsions was sometimes confined to the motor centres of the brain; but, as the converse of these, I may instance epileptic vertigo, where the pathological cause immediately productive of the unconsciousness appears to be specially located in the expanse of gray matter on the surface of the cerebrum, and not to extend further. An epileptic woman suffering from the *petit mal*, at present under my care, illustrates this remark. On two or three occasions, I have seen her seized with a fit while seated at table. At these attacks she lost consciousness for about ten seconds without being convulsed, except once that I noticed a few spasmodic twitches of the right arm, as if they would indicate, although the abnormal force was for the most part spent on the hemispherical ganglia, how readily it might extend to the motor centres. And that it does so extend even in this case is evinced by the fact, that, besides the milder seizures, she has usually severe epileptic fits, with general convulsions, at intervals of three or four weeks.

3d, In unilateral convulsions the so-called bilateral muscles are implicated, but the twin muscles of the otherwise sound side, as a rule, do not contract so firmly as those on the convulsed side.

the seizure—he was not convulsed, simply unconscious, and breathing calmly; but I was told that he had been convulsed at first. After he had been carried out into the session-house, I examined him more carefully, when I found that his right arm fell heavily by his side on raising it several times; the right leg also seemed feebler than the other one, which, as well as the left arm, was in nowise affected. In less than ten minutes he was using the apparently palsied arm with as much freedom as the other. In about half an hour he had fully recovered consciousness, and then he told me that he had been subject to the “falling sickness” for about thirty years, and that the fits affected the right side especially.

I am inclined to think, that in all cases where temporary hemiplegia follows epileptic or epileptoid convulsions, the spasmodic movements had been either confined to the afterwards palsied side, or were decidedly worse there; at least, I cannot recall any case where this form of paralysis followed convulsions pretty equally distributed over the body.

¹ See on this point Dr Hughlings-Jackson's very valuable article on Apoplexy, etc., in Reynolds's System of Medicine.

This I have recorded with reference to the muscles of the abdominal wall and the orbicular muscles of the eyes in Scott's case, and I have noticed the same fact in other patients who have been under my care.

4th, The eyes in Scott's case did not diverge so much in the later fits as in the earlier ones. This, I think, gives support to the very important hypothesis of Broadbent regarding the implication of the bilateral muscles in hemiplegia, etc., that "where the muscles of the opposite sides of the body constantly act in concert, the nerve-nuclei of these muscles are so connected by commissural fibres as to be, *pro tanto*, a single nucleus." Dr Broadbent advanced his hypothesis as explanatory of the deviation of the eyes to the sound side in connexion with cases of hemiplegia. In my patients the eyes turned to the affected side; but it is to be remembered that, at the time referred to, the condition was convulsion, not paralysis. The theory appears to me to apply in the following way: The motor nerve-centres on one side of the brain are in excessive action; those on the other side do not exert more than their normal influence, very likely less: the latter are therefore, for the time being, overpowered, and consequently the external rectus—the abducens muscle of the sound eye—is *relatively* paralyzed through the violent contraction of the corresponding muscle of the eye of the convulsed side. The latter, in a state of health, is associated in action with the internal rectus of the opposite eye, taking also the lead in combined movements; and their nerve-nuclei, according to the theory, are intimately connected by commissural fibres. Through this connection the undue stimulation of the centre of the abducens muscle, everting the eyeball of the convulsed side, would at once be extended to that of the internal rectus of the sound side, which, acting on this muscle, would determine the deviation of the eye to which it belonged, likewise to the convulsed side. The internal rectus of the affected side, in the first instance, would not assist much in maintaining the equilibrium of the forces at work, as its action, in a state of health, is only secondary to that of the abducens muscle of the sound side; and, in its abnormal state, it could not alone resist the combined force of the external rectus of the convulsed eye, plus that of the internal rectus of the sound one. But after a short time, the excessive stimulation of the nucleus presiding over the convulsed internal rectus, through the commissural fibres,—an inverted course, and, therefore, one slow of being established,—I say, this over-stimulation¹ would gradually excite the centre of the sound external rectus into unusual action, and the deviation of the eyeballs would then either cease altogether, or not be so marked.

This I consider to be the explanation of the fact which I pointed

¹ I have adopted the general opinion that the condition of the centres in convulsion is that of excessive stimulation, admitting, however, that much is to be urged in favour of Dr Radcliffe's view of the pathological state in epilepsy and convulsions generally.

out in Scott's case, that the deviation of the eyes was not so great in the late as in the early fits.

5th, The order of succession in which the muscles are involved in convulsions. There, no doubt, must be some cause in the condition of the centres why at one time the muscles of the face, or the arm, or the leg, are primarily affected, and not at another; but it must be admitted that the cases narrated do not throw much light on the point. Scott's case would rather seem to show, that while there was probably no appreciable difference in the focus of irritation, the convulsions might begin—as was usually the case—in the face, but sometimes in the arm, and again might affect the face and leg before the arm was involved.

6th, The higher temperature of the convulsed part is what might be expected where there was so much increased waste of tissue in progress. In this connexion I may mention, that, about three years since, I observed the temperature of palsied as compared with sound limbs by means of a register thermometer in the axilla in 39 hemiplegics, with the following results: In 22 cases the palsied arm was colder than the healthy one,—the degree varying from $\frac{1}{2}^{\circ}$ to $1\frac{3}{4}^{\circ}$; 8 were warmer, ranging from $\frac{2}{3}^{\circ}$ to $1\frac{1}{2}^{\circ}$; 9 were equal on both sides.

7th, The bearing of Scott's case on the question of the localization of the function of speech,—or rather, as I would put it, the localization of the conductors that transmit the impulses which produce speech through the medium of the special motor centres presiding over the organs connected with articulation. I have said that on the 13th January the left hernia cerebri formed; that on the 1st February it was in a sloughy state; and that, from that time till his death, portion after portion of the cerebral substance was thrown off, till a very large part of the parietal lobe was lost, the amount being indicated by the size of the cavity observable in that lobe after death. Yet all the while he talked freely—he had no difficulty in articulation, nor was there loss of language—until the last two days of his life, but even then he muttered incoherently, and there seemed to be no approach to ordinary aphasia.

Here, then, is negative support to the theory which connects the expression of articulate language with the frontal lobes of the brain, inasmuch as so large a portion of the parietal lobe was destroyed, without this faculty being much, if at all, impaired.

Bearing upon the question of the loss of speech, this case has struck me very forcibly, particularly when contrasted with another one described by me in a paper on the pathology of aphasia¹ (Mary Kelly's) in which, during life, the symptoms were those of pure aphasia, and in whose brain the autopsy revealed complete destruction of the frontal lobe and island of Reil of the left hemisphere, except the first convolution. There was also general atrophy of the rest of that hemisphere, but there could scarcely be

¹ Journal of Mental Science, January 1867.

a doubt that the aphasic condition was intimately associated with the marked loss of tissue in the anterior part of the brain.¹

We see, then, that in the case where the destruction of tissue was in the left parietal lobe, speech was little, if at all, impaired; but that where the special lesion was in the left frontal lobe, the power of expression in articulate language was all but lost.

ARTICLE IX.—*Our existing System of Hospitalism and its Effects.*

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(Continued from page 1115, vol. xiv.)

PART III.—*Provincial Hospitals of Great Britain, etc.*

CHAPTER XII.—SOME COMPARISONS, ETC., BETWEEN THE LIMB-AMPUTATIONS IN COUNTRY PRACTICE AND IN THE PRACTICE OF LARGE AND METROPOLITAN HOSPITALS.

IN comparing the mortality of the four major amputations in large and metropolitan hospitals and in private country practice, one or two points of difference deserve to be pointed out before we proceed to the consideration of the statistics of Provincial British Hospitals of different sizes.

1. *There is a much larger proportion of primary amputations in the country amputation returns than in the hospital returns.*—Of the 2089 metropolitan and hospital amputations tabulated in Chapter X., 1022 only were primary, or nearly one-half of the whole. Of the 2098 country amputations reported in Table I., 1384 were primary, or nearly two in every three. In other words, there is a surplus of 364 primary amputations in the country returns as compared with the large and metropolitan hospital returns. But amputations from injury are much more dangerous and fatal in their results than amputations for disease. In counting up the items in favour of the success of the hospital returns and against the success of the country returns, this point must be allowed to have due weight; and it ought to have much increased the country mortality against the hospital mortality, if other things had been equal. In other points there is an advantage of the contrary kind against the hospital and in favour of the country amputations. For example:—

2. *The hospital amputations contain a greater list of amputations of the lower extremities than the country returns.*—Of the 2098 country amputations, 1287 were amputations of the lower extremity, and 811 were amputations of the upper extremity. Of the 2089 hospital amputations, 1548 were amputations of the lower extremity, and

¹ This brain was submitted to the Glasgow Medico-Chirurgical Society, who appointed a committee of their number to examine it, and their report will probably be published at an early date.

541 were amputations of the upper extremity. But the operation is much more fatal in the thigh and leg than in the arm and forearm. In the returns of the eleven large and metropolitan hospitals included in Table XI. the amputations of the lower extremity proved fatal in 45 per cent., the amputations of the upper extremity in 28 per cent. As already pointed out in Chapter III., the greater number of amputations of the forearm and arm in country practice is owing to the greater frequency of the accidents to which men are exposed in country life from gunshot wounds, and from the injuries produced by the unguarded thrashing-machine of the agriculturist. In the country returns there are 811 amputations of the upper extremity reported; in the hospital returns 541 amputations of the upper extremity are given. There is a slightly larger number of the most dangerous amputation of all—viz., of primary amputation of the thigh—given in the 2098 country than in the 2089 hospital amputations; but the latter contains, for reasons given elsewhere (see *Lancet* for 16th October), a greater number of thigh amputations for disease;—though this operation for this cause is, when performed, nearly three times more successful in country than in hospital practice.

I have also elsewhere pointed out at length (see a series of "Propositions on Hospitalism," in the *Lancet* for August, September, etc.), that with regard to the preceding 2098 country and 2089 hospital limb-amputations, they give ample evidence to this effect:—1. That limb-amputations in country practice are far more successful than in city or metropolitan hospital practice, both when taken as a whole, and still more so when the amputations are taken singly and individually; 2. That the contrast between the two kinds or sites of practice—the country and the hospital—is proportionally more evident and pronounced in the slighter than in the greater amputations of the limbs; 3. That the vast differences between the death-rates of amputation in hospital practice and in single rooms in country practice are not accountable for, either by the state of the patients at the time of operating, or by the relative severity of the injuries or diseases demanding the operation; 4. That more patients sink under "shock" in country than in hospital practice; 5. That the main leading cause of death in hospital as compared with country amputations is pyæmic or surgical fever; etc., etc.

But, without here entering further into these points of comparison between country amputations and those performed in large and metropolitan hospitals, let us proceed to another branch of our inquiry.

CHAPTER XIII.—MORTALITY FROM LIMB-AMPUTATIONS IN THE PROVINCIAL HOSPITALS OF GREAT BRITAIN.

With the view of following out these inquiries as to the death-rate of limb-amputations under different conditions, I have tried to

collect statistics on the subject from the Provincial Hospitals of Great Britain. For it seemed important in relation to some points in the investigation to be able to contrast the results of amputations in our more limited provincial hospitals with the results of the same operations in our large and metropolitian hospitals, on the one hand, and with their results in private country practice on the other hand. Besides, the inquiry promised to offer the most satisfactory kind of solution that could be obtained to the question as to the size of hospitals influencing or not, as a general law, their degree of salubrity or their degree of mortality.

The following was the form of schedule sent out to the different provincial hospitals of Great Britain, with the hope of procuring a return of the cases in which the four major amputations of the limbs had been performed in them in the continuity of the bones:—

“Results of the Four Amputations of the Thigh, Leg, Arm, and Forearm, in the Hospital from 1862 to . . . (Amputations through the Joints are not to be included.)”

Year.	FOR INJURY.								FOR DISEASE.							
	Thigh.		Leg.		Arm.		Forearm.		Thigh.		Leg.		Arm.		Forearm.	
	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.	No. of Cases.	Deaths.
18																
18																
18																
18																
18																
18																
Total																

Signature, _____

Residence, _____

Date, _____

REMARKS.”

I asked only for the cases from 1862 onwards, partly because I was desirous of procuring the latest returns, and partly because many of the returns from these hospitals had been already published up to that year, or even inclusive of it, in the elaborate official reports drawn up by Dr Bristowe and Mr Holmes for the Medical Officer of the Privy Council.¹ One or two hospitals furnished me with returns from an earlier year, and which I have, of course, not hesitated to include.

In consequence of the schedules issued, I have, up to the time of tabulating and calculating all the data, obtained returns of the results of amputation of the limbs from seventy-four provincial hospitals in Great Britain. From the remainder of these hospitals

¹ See the Sixth Annual Report of the Medical Officer of the Privy Council. London: 1864.

I have failed in procuring these data. In some no register of the results of operations is kept.

The total number of cases of limb-amputation reported from those seventy-four British hospitals amounts to 3077.

The seventy-four hospitals vary much in size. In the tables which follow, I have arranged them and their results in accordance with their individual extent; or, in other words, in accordance with the number of beds which they each contain. For this purpose, I laid down the following four divisions or series, and arranged the hospitals subsequently under their respective heads, viz. :—

1. Hospitals with 25 beds and under;
2. Hospitals with 26 to 100 beds;
3. Hospitals with 101 to 200 beds;
4. Hospitals with 201 to 300 beds.

The only hospitals in Great Britain which at present contain a larger number of beds are the Royal Infirmaries of Edinburgh and Glasgow, and the four Metropolitan Hospitals of St Bartholomew's, St George's, Guy's, and the London Hospital in Whitechapel, which can each accommodate from 300 to 600 patients or more. I have already, in Chapter X., given at length the annual amputation statistics for some years back of these several hospitals. In adducing the statistics of the provincial hospitals, I shall begin with those of the largest size, and proceed from thence downwards in the series. In doing so I shall collect together into separate tables all the amputation returns furnished to me pertaining to each series individually; and use for this purpose the general sums of all the amputations for all the years which I have received from each hospital. It would take up unnecessary space to print all the returns for all the included years of each provincial hospital—as I have already done of the six largest city or metropolitan hospitals above referred to. Besides, the statistical data furnished by the provincial hospitals individually are usually too small by themselves for statistical conclusions; but they become adequate for this purpose when collated and calculated together in sufficient masses.

FIRST SERIES.

PROVINCIAL HOSPITALS WITH 201 TO 300 BEDS.

There are seven hospitals only included under this head; the largest of the seven, the Royal Infirmary of Liverpool, containing 270 beds, and the smallest, the General Hospital of Birmingham, containing 223 beds. One of the seven hospitals, the Royal Seabathing Infirmary, is (to quote the words of my friend Dr Rowe, in sending me the return of the operations) “special in its character; casualties as a rule are not admitted, but are sent to the Canterbury Hospital. Hence the entire absence in the report of operations for injury.”

TABLE XII.—*Results of the Four Amputations of the Thigh, Leg, Arm, and Forearm, in Seven British Hospitals containing from 201 to 300 Beds.*

No.	Name of Hospital.	No. of Beds.	Years.	For Injury.								For Disease.							
				Thigh.		Leg.		Arm.		Fore-arm.		Thigh.		Leg.		Arm.		Fore-arm.	
				Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1	Liverpool Infirmary	270	1862-8	22	16	24	10	15	4	11	1	54	18	62	7	7	3	18	0
2	Dundee	260	1861-8	8	4	9	6	32	13	18	1	5	2	4	4	4	2	1	0
3	Newcastle "	250	1866-8	12	6	15	8	13	8	8	1	8	2	2	0	1	0	0	0
4	Margate Royal Sea-bathing Infirmary	250	1864-9	0	0	0	0	0	0	0	0	23	7	19	0	5	0	2	0
5	Bristol Infirmary	242	1862-8	5	3	13		8	1	5	1	32	5	20	1	2	1	4	0
6	Aberdeen "	229	1860-8	15	10	10	3	10	0	5	0	41	9	21	4	3	1	7	1
7	Birmingham Gen. Hospital	223	1862-4 1866-8	19	9	39	20	33	8	18	4	54	16	23	4	5	0	9	2
Total				81	48	110	49	111	34	65	8	217	59	151	20	27	7	41	3
Mortality per cent. . . .				59.2		44.5		30.6		12.3		27.1		13.2		25.9		7.3	
Or proportionally 1 in . . .				1.7		2.2		3.2		8.1		3.6		7.5		3.8		13.6	

Total number of cases, 803 ; of deaths, 228 ; or 1 every 3.5, or 28.3 in 100, died.

Total number of amputations for injury, 367 ; of deaths, 139 ; or 1 in 2.6, or 37.8 in 100, died.

Total number of amputations for disease, 436 ; of deaths, 89 ; or 1 in 4.9, or 20.4 in 100, died.

Mortality of Individual Amputations.

Thigh	cases, 298 ;	deaths, 107 ;	or 1 in 2.8 ;	or 35.9 per cent.
Leg	" 261 ;	" 69 ;	or 1 in 3.7 ;	or 26.4 "
Arm	" 138 ;	" 41 ;	or 1 in 3.3 ;	or 29.7 "
Forearm	" 106 ;	" 11 ;	or 1 in 9.6 ;	or 10.3 "

SECOND SERIES.

PROVINCIAL HOSPITALS WITH 101 TO 200 BEDS.

This series includes twenty hospitals. Most of them range in number of beds from 101 to 150. Indeed, only one hospital on the list rises to a higher number, viz., the Sussex County Hospital, which contains 165 beds. There are four hospitals with 150 beds each ; and six with 120 beds each. The hospitals of Leeds and Nottingham, and the Northern Hospital of Liverpool, yield in this series the largest number of amputation returns. The Infirmary of Liverpool, a larger institution than the Northern Hospital of that town, is included in the preceding or first series.

TABLE XIII.—*Results of the Four Amputations of the Thigh, Leg, Arm, and Forearm, in Twenty British Hospitals containing from 101 to 200 Beds.*

No.	Name of Hospital.	No. of Beds.	Years.	For Injury.				For Disease.			
				Thigh.	Leg.	Arm.	Fore-arm.	Thigh.	Leg.	Arm.	Fore-arm.
				Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.
1	Sussex	165	1862-68	2 1	15 7	6 1	3 0	10 6	13 2	6 0	1 0
2	Chester	150	1864-69	5 3	16 3	6 0	5 0	1 0	5 0	1 1	0 0
3	Bristol	150	1863-65 & 1868	9 5	6 4	2 1	2 0	18 1	8 0	0 0	2 0
4	Derbyshire	150	1862-68	10 5	15 3	3 0	2 0	13 5	16 0	2 0	6 0
5	Norfolk and Norwich	150	1862-68	9 2	11 2	2 0	15 3	23 6	10 3	9 1	5 0
6	Radcliff, Oxford	149	1862-68	2 1	10 3	5 0	5 0	16 1	12 2	1 1	0 0
7	Nottingham	142	1862-68	20 5	20 3	15 2	14 1	32 5	13 2	12 2	9 0
8	Leeds	140	1862-68	18 14	13 19	41 17	55 3	44 11	35 7	12 2	7 1
9	Shrewsbury	140	1863-69	13 6	20 5	20 3	6 0	14 3	14 1	3 0	4 0
10	Liverpool, Northern	134	1862-68	24 16	35 12	13 4	14 3	6 2	3 1	1 1	1 0
11	Paisley	132	1862-68	6 0	17 2	7 1	9 0	0 0	9 2	3 0	0 0
12	North Staffordshire	125	1862-68	13 4	11 13	12 1	6 1	15 4	7 0	0 0	0 0
13	Inverness	120	1862-68	1 0	4 1	0 0	1 0	2 1	1 1	0 2	1 1
14	Bath Royal United	120	1862-68	3 2	5 3	5 1	5 0	26 7	12 2	2 0	1 0
15	Reading (Royal Berks)	120	1862-68	8 1	10 2	6 0	10 3	26 3	16 0	2 0	2 0
16	Liverpool, Southern	120	1862-68	7 2	13 6	17 5	4 0	7 1	8 0	4 1	1 1
17	Kent and Canterbury	120	1862-68	2 1	1 1	6 0	8 0	8 0	5 1	1 0	9 0
18	Buxton	120	1861-67	1 0	1 0	0 0	0 0	0 0	0 0	0 0	0 0
19	Greenock	119	1862-68	9 5	5 0	11 4	1 0	1 0	1 0	1 0	0 0
20	Rochester	108	1863-68	5 1	4 0	1 0	1 0	2 1	3 0	0 0	1 0
Total.				167 74	292 89	178 40	166 14	264 57	191 24	61 9	51 3
Mortality per cent.				44·3	30·4	22·4	8·4	21·5	12·5	6·7	5·9
Or proportionally 1 in				2·2	3·2	4·4	11·8	4·6	8	14·7	17

Total number of cases, 1370 ; of deaths, 310 ; or 1 in every 4·4, or 22·6 in every 100, died.

Total number of amputations for injury, 803 ; of deaths, 217 ; or 1 in every 3·7, or 27 in every 100, died.

Total number of amputations for disease, 567 ; of deaths, 93 ; or 1 in every 6·1, or 16·4 in every 100, died.

If we combine together the amputations for injury and for disease, the mortality from the individual amputations is as follows :—

Mortality of Individual Amputations.

Thigh	cases, 431 ; deaths, 131 ; or 1 in 3·3 ; or 30·4 per cent.
Leg	483 ; " 113 ; or 1 in 4·2 ; or 23·4 "
Arm	239 ; " 49 ; or 1 in 4·8 ; or 20·5 "
Forearm	217 ; " 17 ; or 1 in 12·7 ; or 7·8 "

THIRD SERIES.

PROVINCIAL HOSPITALS WITH 26 TO 100 BEDS.

This list includes thirty British hospitals. Four of them contain 40 ; three of them 50 ; three of them 60 ; three of them 90 ; and

five of them 100 beds each. The largest numbers of amputations returned in this series are from two hospitals belonging to maritime towns—namely, Plymouth and Cardiff.

TABLE XIV.—*Results of the Four Amputations of the Thigh, Leg, Arm, and Forearm, in Thirty British Hospitals containing from 26 to 100 Beds.*

No.	Name of Hospital.	No. of Beds.	Years.	For Injury.				For Disease.			
				Thigh.	Leg.	Arm.	Fore-arm.	Thigh.	Leg.	Arm.	Fore-arm.
				Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.	Cases. Deaths.
1	York	100	1862-8	4 1	2 0	1 0	1 0	5 0	5 0	4 0	1 0
2	Worcester	100	1863-8	9 4	22 0	8 0	9 1	0 0	10 1	1 0	2 1
3	Lincoln County	100	1862-8	6 2	5 1	5 2	4 0	11 1	8 1	4 0	4 0
4	Dumfries	100	1862-8	2 1	5 3	4 1	2 0	2 2	9 1	3 0	0 0
5	R. South Hants	100	1862-8	3 2	7 3	2 0	8 0	8 3	2 0	2 0	3 0
6	Salisbury	98	1862-8	7 4	2 0	4 0	1 0	17 3	4 0	4 1	8 0
7	Cheltenham	90	1862-8	5 3	5 1	4 1	1 0	7 0	3 1	0 0	0 0
8	Plymouth	90	1863-8	13 2	10 2	7 1	5 0	9 1	2 0	2 1	4 0
9	Taunton	90	1866-8	1 1	2 1	2 0	4 0	3 0	0 0	0 0	0 0
10	Montrose	70	1863-9	1 1	0 0	2 1	0 0	5 2	0 0	1 0	4 1
11	Lancaster	70	1865-8	2 1	7 2	1 0	3 1	0 0	0 0	0 0	0 0
12	Truro	60	1862-8	7 2	8 0	7 0	2 0	11 0	6 0	1 1	2 0
13	Chichester	60	1862-9	1 0	3 0	3 2	3 0	4 1	6 3	1 0	1 0
14	North Riding	60	1864-9	4 1	7 3	2 1	1 0	1 0	4 1	1 0	0 0
15	Royal Surrey County	54	1866-9	5 1	1 1	1 1	0 0	4 1	2 0	0 0	2 0
16	W. Norfolk and Lynn	52	1862-8	2 1	1 0	7 1	1 0	10 2	7 1	2 0	0 0
17	Monkland	50		0 0	0 0	0 0	0 0	1 0	0 0	1 0	0 0
18	Cardiff	50	1862-9	10 4	17 6	7 9	3 0	3 0	4 1	0 0	0 0
19	Halifax	50	1862-8	2 1	7 3	15 3	7 1	6 0	10 0	1 0	0 0
20	Balfour, Kirkwall	48		0 0	0 0	1 1	3 0	6 0	9 0	0 0	1 0
21	Huntingdon	42	1862-8	3 1	4 1	3 1	2 0	3 1	3 1	2 0	0 0
22	Denbigh	40	1862-9	1 1	0 0	0 0	3 1	4 0	4 1	1 0	2 0
23	Bridgewater	40	1862-8	4 2	4 0	0 0	5 1	3 1	1 1	0 0	0 0
24	Stamford	40	1862-8	3 1	2 1	2 0	1 0	8 2	3 1	1 0	1 0
25	Cardmarthenshire	40	1862-8	2 0	7 1	1 0	1 0	0 0	1 0	0 0	3 0
26	Hartlepool	36	1865-9	1 0	3 0	1 0	0 0	0 0	0 0	0 0	0 0
27	Hertford	35	1863-9	3 1	2 1	1 0	4 0	0 0	0 0	0 0	0 0
28	Swansea	34	1862-8	2 1	17 3	6 1	1 0	2 0	7 0	2 0	1 0
29	Great Yarmouth	28	1862-9	1 0	2 1	1 0	5 0	2 0	3 0	1 0	1 0
30	Ramsgate	26	1865-8	2 0	1 0	0 0	1 0	0 0	0 0	0 0	0 0
Total				106 39	153 34	98 17	81 5	135 20	113 14	35 3	40 2
Mortality per cent.				36·8	22·2	17·3	6·1	14·7	12·4	8·5	5
Or proportionally 1 in				2·7	4·5	5·7	16·2	6·7	8	11·6	20

Total number of cases, 761; of deaths, 134; or 1 in every 5·6, or 17·6 in every 100, died.

Total number of amputations for injury, 438; of deaths, 95; or 1 in every 4·6, or 21·6 in every 100, died.

Total number of amputations for disease, 323; of deaths, 39; or 1 in every 8·3, or 12 in every 100, died.

If we combine together the amputations for injury and for disease, the mortality from the individual amputations is as follows:—

Mortality of Individual Amputations.

Thigh	cases, 241 ;	deaths, 59 ;	or 1 in 4 ;	or 24·4 per cent.
Leg	„ 266 ;	„ 48 ;	or 1 in 5·5 ;	or 18 „
Arm	„ 133 ;	„ 20 ;	or 1 in 6·6 ;	or 15 „
Forearm	„ 121 ;	„ 7 ;	or 1 in 17·2 ;	or 5·8 „

FOURTH SERIES.

PROVINCIAL HOSPITALS WITH 25 BEDS AND UNDER.

This series includes within it chiefly the so-called Cottage Hospitals of Great Britain. They have been usually opened, in the first instance at least, in houses that had been previously used as private dwellings. According to Mr Churchill's Directory, the largest "cottage hospital" in England, and one of the earliest, is that of Middlesborough in Yorkshire, which contains 25 beds. Some of them are much smaller. The hospitals at Fowey in Cornwall, and Shedfield in Hampshire, contain only four beds each ; and that of Shotley Bridge, Durham, though it is only provided with five beds, has already a list of ten limb-amputations. The first cottage hospitals in England were, I believe, founded about ten years ago ; and one or two of the returns include the interval from that time to this. But most of them are much later. The small general Infirmaries of Kidderminster, Bridgnorth, and Brecknock, which contain 11 or 12 beds each, date their returns from 1862.

TABLE XV.—*Results of the Four Amputations of the Thigh, Leg, Arm, and Forearm, in Seventeen British Hospitals with 25 Beds and under.*

Name of Hospital.	No. of Beds.	For Injury.								For Disease.							
		Thigh.		Leg.		Arm.		Fore-arm.		Thigh.		Leg.		Arm.		Fore-arm.	
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Middlesborough . . .	25	3	1	20	3	7	1	0	0	1	0	6	0	1	0	0	0
Penrhyn	18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Barrow	18	1	0	2	0	4	0	4	0	0	0	0	0	0	0	0	0
Teignmouth	17	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Gravesend	15	5	1	1	1	0	0	4	2	1	0	0	0	0	0	0	0
Kidderminster . . .	12	0	0	5	1	3	0	5	0	0	0	0	0	0	0	0	0
Brecknock	12	0	0	1	0	2	0	1	0	0	0	3	0	0	0	0	0
Bridgnorth	11	2	1	3	1	0	0	2	0	0	0	0	0	0	0	0	0
Savernake	10	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0
Dinorwic	8	1	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0
Cranleigh	6	1	0	0	0	0	0	1	1	2	1	0	0	1	0	1	0
Shotley Bridge . . .	5	7	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0
Fowey	4	3	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0
Oswestry		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Walsall	24	0	0	1	0	4	0	3	0	3	1	6	0	2	1	2	0
Shedfield	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Ditchingham	10	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Total		24	5	38	8	22	1	24	3	10	2	17	0	5	1	3	0
Mortality per cent. .		20·8		21		4·5		12·5		20		0		20		0	
Or proportionally 1 in .		4·8		4·7		22		8		5		0		5		0	

Total number of cases, 143 ; of deaths, 20 ; or 1 in every 7·1, or 14 in every 100.

Total number of amputations for injury, 108 ; of deaths, 17 ; or 1 in every 6·3, or 15·7 in every 100.

Total number of amputations for disease, 35 ; of deaths, 3 ; or 1 in every 11·6, or 8·6 in every 100.

If we combine together the amputations for injury and for disease, the mortality from the individual amputations is as follows :—

Mortality of Individual Amputations.

Thigh cases,	34 ;	deaths,	7 ;	or 1 in every	4·8 ;	or 20·6 per cent.
Leg	„ 55 ;	„	8 ;	or 1 in every	6·8 ;	or 14·5 „
Arm	„ 27 ;	„	2 ;	or 1 in every	13·5 ;	or 7·4 „
Forearm „	27 ;	„	3 ;	or 1 in every	9 ;	or 11·1 „

The three first series of provincial hospital returns given in the preceding tables contain respectively 803, 1370, and 761 limb-amputations. These several masses of data afford perhaps in each series a sufficient foundation for arriving at fair and reliable statistical inferences. In the fourth series, the data are as yet too small for coming to any very certain statistical conclusions on the subject ; and a few years will need to elapse before our cottage hospitals can furnish a sufficient basis of data for more decided and determinate results. Perhaps the data which already exist ought to give a more favourable view of the salubrity of these cottage hospitals for operative purposes than the last of the preceding series of tables indicates. For in reference, for example, to the “Oswestry Cottage Hospital,” Dr Blaikie has returned to me under its schedule twelve successful limb-amputations without a death, though I have entered only one of these. This is the only one that has occurred in the newly opened cottage hospital at Oswestry, but the eleven other successful cases had previously occurred in the small Workhouse Infirmary of Oswestry, which was the predecessor of the cottage hospital, and may justly, perhaps, be assimilated with it, and placed, as is done by Dr Blaikie, in the same table. Again, in consequence of it being stated in Mr Churchill’s Medical Directory that the Balfour Hospital at Kirkwall contained 48 beds, I entered it and its results in the third of the preceding tables of provincial hospitals. Since, however, these tables were calculated and finished, I have, in a conversation with Dr Logie, surgeon to the hospital, been assured by him that the institution has never had above 12 beds, though, being established in a large and old dwelling-house, it might accommodate more ; and truly, therefore, it belongs to the series of cottage hospitals. If we are justified, then, in adding to the limb-amputations performed in hospitals with 25 beds or less, the Oswestry and Kirkwall returns, instead of having in the fourth series of these small provincial hospitals 143 limb-amputations with 20 deaths, or 1 in every 7, the list should be extended to 174 cases of limb-amputations with 21 deaths, or 1 death in every 8.

CHAPTER XIV.—THE MORTALITY OF LIMB-AMPUTATIONS AS REGULATED BY THE SIZE OF HOSPITALS, AND THE DEGREE IN WHICH PATIENTS ARE AGGREGATED OR ISOLATED.

In the two previous parts of these communications on Hospitalism we have seen that in our large metropolitan hospitals about 41 in every 100 operated on die of those patients who are subjected to the four major amputations of the limbs; while in single or isolated rooms in country practice patients die, under the very same class of operations, to the extent only of 10 or 11 in every 100. In the last Chapter we have collected evidence of the death-rate from these same four major limb-amputations in British provincial hospitals of various sizes. If we throw the whole facts thus collected into a tabulated form, the general results may be stated as follows:—

	<i>Size of Hospital.</i>	<i>Death rate.</i>
1st Series.—In large and metropolitan British hospitals, chiefly containing from 300 to 500 beds or upwards, out of 2089 limb-amputations 855 died, or		1 in 2·4
2d Series.—In provincial hospitals containing from 201 to 300 beds, out of 803 limb-amputations 228 died, or		1 in 3·5
3d Series.—In provincial hospitals containing from 101 to 200 beds, out of 1370 limb-amputations 301 died, or		1 in 4·4
4th Series.—In provincial hospitals containing from 26 to 100 beds, out of 761 limb-amputations 134 died, or		1 in 5·6
5th Series.—In provincial hospitals containing 25 beds or under, out of 143 limb-amputations 20 died, or		1 in 7·1
6th Series.—In British private country practice, with the patients operated on in single or isolated rooms, out of 2098 limb-amputations 226 died, or		1 in 9·2

These data go to point out and establish the general fact or general law in hospital hygiene, that the death-rate accompanying amputation of the limbs,—and, as we may infer, the death-rate accompanying other surgical operations, and many medical diseases also,—is regulated in a great and marked manner by the size of the hospitals, and the degree of aggregation or segregation in which the patients are treated. But like all other general laws in medicine, this law is subject to many exceptions. Thus, a small hospital, if overcrowded with beds and patients, becomes as insalubrious as a large hospital under one roof. On the other hand, a large hospital would be generally made almost as salubrious as a small institution, provided few beds were left scattered over its wards, and these wards were well ventilated and often changed. But such exceptions only establish more securely the great and important hygienic law, that, in the treatment of the sick, there is ever danger in their aggregation, and safety only in their segregation; and that our hospitals should be constructed so as to avoid as far as possible the former, and secure as far as possible the latter condition.

Part Second.

REVIEWS.

The Climate of the South of France as suited to Invalids, with Notices of Mediterranean and other Winter Stations. By CHARLES THEODORE WILLIAMS, M.A., M.D. Oxon. 2d Edition, pp. 134. Longmans: 1869.

THIS book is apparently intended both for medical men and for intelligent patients. The author has enjoyed unusual facilities for treating his subject. He has resided for a considerable time in or near the places which he describes; and his position as assistant-physician to the Brompton Hospital is a certificate of skill and opportunity in the treatment of chest diseases. Moreover, his father, Dr C. B. J. Williams, is well known as one of the most sagacious consulting physicians in London, and in his crowded ante-room there are opportunities of ascertaining the effects of different climates upon invalids equal to any in the world. Monographs written by doctors practising in foreign sanatoria are deservedly regarded with great suspicion, and many of them are not a whit more deserving of credit than the treatises upon foreign wines and articles of food, which occasionally take the form of books or pamphlets. A comparison between the glowing promises of writers of this school, and the often disappointing reality, has made many physicians entertain grave doubts as to the efficacy of southern climates in the treatment of phthisis; and there are men of good repute who hold that there are places in Great Britain quite as useful as the vaunted winter climates of the south of France and Italy.

It will generally be found that those who are wont to uphold opposite views on this question set out on different premises. Those who are disposed to deny the advantages of foreign sanatoria are very slow to admit that exposure to cold, and attacks of pleurisy and bronchitis, are liable to cause phthisis; and, no doubt, the advance of pathology and statistical research has much widened their ground, and narrowed that of their opponents. Consumption appears to be rare in some very cold localities, such as Iceland, the Hebrides, and Northern Russia, and to be common in some hot ones, such as the West Indies and Gibraltar. It seems likely enough, that where a cold and inclement climate appears to increase the tendency to phthisis, it does so indirectly, by rendering hot and close rooms more agreeable than the open air. Dr Williams maintains, "that a considerable number of cases of phthisis take their origin from inflammatory attacks; that intercurrent inflammations are the most common causes of acceleration of the disease in this

country ; and that a climate which supplies fresh air without cold, damp, and sudden changes, owes much of its salutary influence to its excluding these causes of inflammation." Whether a patient takes consumption because he has caught cold, or catches cold because he has incipient consumption, is a question difficult to decide ; but most practitioners who feel the necessity of giving some definite advice to those who consult them, will admit that well-selected cases of phthisis often receive much benefit from passing the winter in a climate like the south of France, which, as Dr Williams tersely puts it, "is warmer and drier than our own ; it has more sunshine, and counts fewer rainy days, and therefore gives greater opportunities for out-door exercise in a pure, mild, and invigorating air, comparatively secure from the chills, changes, fogs, and wet or bleak weather, which pretty generally prevail in this country."

Dr Williams's book is principally devoted to a description of the flourishing group of sanatoria which, sheltered from the cold blasts of the mistral by the high ridges of the Maritime Alps, stretch along the sunny shores of the Mediterranean, from Hyères to Genoa. His remarks are judicious, and generally well selected, and, as he claims, appear to be written in "a spirit free from local interest or bias." His style is generally clear and to the point ; but when he comes to talk on subjects such as the glories of nature or the beauties of the landscape, his sentences are occasionally rather laboured and lengthy, and might now and then be improved by pruning.

To the second edition of the work he has added descriptions of the principal winter stations on the shores of the Mediterranean, including those of Italy, Spain, and North Africa. There is one of Pau, but no account of the flourishing sanitarium of Arcachon, which, nevertheless, is in the south of France. A few words too upon the climates of Montpellier and Montauban would not have been thrown away. As the one town contains an ancient University, and the other a College for Protestant Theology, one or other of them might be convenient for invalid students, or men of studious lives, who wish to seek a milder climate during the winter.

The following is a rapid resumé of some of Dr Williams's views. Hyères is the nearest and most southerly of the French winter resorts. It is somewhat more humid and less stimulating than Cannes or Mentone. Cannes, while nearly as stimulating as Nice, is more sheltered. The climate is warm and dry. Mentone is warm, dry, and stimulating ; more equable than Nice and Cannes, but the air is close, and the houses too near the sea. San-Remo also is a pleasant spot, with a slightly lesser range of temperature than Mentone ; and, if somewhat less sheltered, the air is not so confined. The character of the climate is much the same along the whole line of coast called the Riviera. There are many pleasant villages where the intelligent invalid may find change and relaxation, and escape the disagreeable and depressing influence of sanatoria, crowded with patients suffering from serious complaints.

Dr Williams keeps his attention mainly, though not exclusively, directed to phthisical cases, which, indeed, include the great majority of health pilgrims. He regards the Riviera as unsuitable for the inflammatory type of phthisis, for which he recommends Torquay, Ventnor, Bournemouth, Pau, and perhaps Pisa. He also speaks well of Tangiers for cases of a similar kind, where, however, the accommodation is limited, and the neighbourhood unsafe. Of the once celebrated Madeira Dr Williams speaks unfavourably. After referring to the deterioration of the climate of Funchal from the substitution of the sugar-cane for the vine, he remarks—"Even before this change took place, the air of Funchal was never healthy; and for many years my father's experience led him to the conclusion that patients rarely benefited much by wintering in Madeira, unless they were strong enough to ride daily on the mountain roads above the town."

Dr Williams tells us that the climate of Funchal counts few rainy days, and that the number of rainy days in Algiers is great; but the average number of rainy days in Algiers is 87, and in Funchal the lowest average is 88; in the meteorological table given in an article in the July number of this Journal, the number of rainy days is 101, and most of these occurred during the colder months. "In cases of bronchitis," writes Dr Williams, "the type must be borne in mind. If it be humid, accompanied by free expectoration, and devoid of febrile symptoms, Cannes, Mentone, or even Nice, would be suitable. If it be dry, and attended by inflammatory symptoms, the softer climates of Hyères and Cimiez would be preferable. As regards spasmodic asthma, Dr Bennet says that some cases do well at Mentone, but the majority do not derive benefit."

We give those views about the effects of climates upon diseases in their different forms, without attempting to share the responsibility of the author. Such views do not rest on anything like scientific proof; and though, no doubt, they have a certain amount of truth, and, therefore, a certain amount of utility wrapped within them, they are subject to so many exceptions, that they can scarcely be called empirical generalizations. Dr Dobell, in his work on Tuberculosis, has attempted a scientific explanation of the effects of change of climate upon phthisis, but his explanation can only be available to those who adopt his theory, that the disease is dependent upon defective pancreatic function.

Dr Williams several times refers to the stimulating character of the air in the Riviera, which so often produces wakefulness. This is especially remarked at Nice, and is attributed by our author partly to the saline breezes coming from the sea, and partly to the dryness of the air. The last of these explanations will not help us much, but Dr Williams's remark, that the stimulating quality exists in its greatest extent near the sea, is worthy of attention. Those who suffer too much from wakefulness or hyperæsthesia, are recommended to choose the inland climates of Cimiez and Hyères.

Cimiez and Hyères inland climates! It is, no doubt, dependent upon the geographical configuration of Italy and the south of France that all our European winter stations are on the sea-coast. Upper Egypt is a dry inland climate, highly valued, but difficult of resort, and expensive. A dry and sunny inland climate could be found in some chosen spot in the interior of Spain, and would, no doubt, be very useful.

The author has collected evidence that Bright's disease is rare in Spain, and at Hyères and Genoa; though, as he points out, these statistics are rendered very doubtful by the inaccuracy of the diagnosis. There is no question, however, that Bright's disease is rare in India; and it is very desirable that some observations should be collected as to the advantages a warm climate might confer upon those suffering from this form of renal disease in our own country.

Dr Williams has a chapter on the Hygienics of Consumption, and an account of some places where the invalid may conveniently pass the summer, if unwilling to return to England. Amongst these is the Engadine. As Dr Williams thinks this elevated station—about 6000 feet high—too cold for chest complaints during the summer, he does not recommend it as a residence during the winter! He objects to the assertion of Dr Hermann Weber, that dry cold is not injurious to consumptive patients, but rather beneficial. "It is possible," he observes, "that by bracing the constitutional powers it may exercise a good effect on individuals predisposed to phthisis; but when the disease has already developed itself, severe cold, even when dry, is apt to induce catarrhal and inflammatory complaints, and would thus render the patient considerably worse. A perfectly *still* cold atmosphere is less harmful than one in which winds prevail; but, according to accounts, the Engadine is by no means free from wind, particularly in the winter months."

Here, it may be objected, we meet with something very like an old fallacy. The physicians of the last generation shut up their patients in hot rooms, perpetuating one at least of the most powerful causes of consumption, to guard against catarrhal and inflammatory complications; and Dr Weber would, no doubt, reply that the constitutional tone derived from exercise in cold dry air is sufficiently great to counterbalance, and more than counterbalance, the risk of exposure, which is not so great as was once imagined. There is no doubt that cold dry air is sometimes beneficial in phthisis, especially in the early stages. In the United States, it has become common to send patients to live in the windless, cold, dry air of Minnesota; and the question when such exposure becomes too late is not so easily settled. It is not likely that the highest stations of the Engadine are free from wind, yet wind is less powerful on the tops of high mountains than at low levels. The question, whether the air of high mountains conduces to recovery from phthisis, is one of the most interesting in therapeutics. It appears that consumption becomes rarer as we rise above the level of

the sea, and that, at great elevations, it is almost entirely unknown. In the last edition of Dr Parkes's valuable work on *Practical Hygiene*, the reader will find a good resumé of our knowledge on this question. "The elevation," he tells us, "beyond which phthisis becomes rare, or is absent, seems to vary considerably in different latitudes, and to become lower as we proceed towards the poles. In the tropical zone it may be regarded as becoming rare above 7000 feet; in the warmer temperate zone, above 3500 to 5000 feet; in the colder temperate zone, above 1300 to 3000 feet elevation. In Switzerland, between 46° and 48° N. lat., the frequency of its occurrence diminishes above 3000 feet; in the Black Forest, between 47° and 49° N. lat., above 2500; in the mountains of Thuringen and Silesia, and in the Harz, between 50° and 52° N. lat., above 1200 to 1400 feet."

For many years back practitioners in Peru have been accustomed to send phthisical patients to the heights of the Andes, where, at an elevation of 8000 feet, they are said to recover rapidly. The same has been done at Panticosta¹ (5000 feet high), on the Pyrenees, as well as on the Engadine. It is not clear whether the benefit derived from living in these elevated regions is really owing to the rarefaction or the dryness of the atmosphere, or to some unknown property of mountain air. It appears that an animal absorbs as much oxygen in air deprived of this element, up to 14 per cent., as when the oxygen is in ordinary proportion, and that the number of inspirations slightly increase with the local elevation. At great elevations the pulse is quicker, but the bodily heat is not increased, as was plainly proved by some experiments we made at Kussouli. Functional diseases, especially those of digestion and assimilation, readily recover at the Engadine and other mountain resorts.

As Dr Parkes remarks, an examination of all those points could be made more thoroughly by the army surgeons of the Indian hill stations than by any other body of men. If the soldiers in our Indian army who fall ill of phthisis were sent to one of the Himalayan or other hill stations, instead of being shipped off to die at Netley, some very useful data could be collected.

We now take our leave of this little book, with our good wishes. We know of no work of the kind more worthy of trust.

Hospitalism and Zymotic Diseases, as more especially illustrated by Puerperal Fever or Metria. By EVORY KENNEDY, M.D., etc., etc. London: 1869.

THIS is a small book on the topic of the day by an able and eminent physician who has been connected honourably with the

¹ See Dr Burgess, on the Climate of Italy, 1852, p. 27.

obstetrical department of the profession during a long career. The history of the volume, as given by himself, indicates that, to a certain extent, it has been the work of his life.

"It is," says our author, "a humiliating admission for humanitarians that misdirected benevolence is, in many of its results, near akin to malevolence. The subject of zymotic or miasmatic diseases, and the means available for their prevention and remedy, is one of universal interest at the present day. Startling conclusions have been arrived at in its investigation—none more so than the conviction that the very means adopted by us and our humane forefathers for lessening and relieving suffering and disease, have conduced to its increase and confirmation, and thus absolutely caused a large unnecessary or avoidable mortality—nay, has even developed diseases previously unheard of."

The meaning of this statement is not quite clear. But we can at least make out this, namely, that our humane forefathers (this includes Dr E. Kennedy himself), trying to lessen and relieve suffering and disease, have, instead, increased and confirmed them. This is assuredly a startling statement, an awful statement, one that should make our humane forefathers start in their graves, and make the present generation give up the practice of medicine as one worthy only of such practitioners as Burke and Hare. But we fear that, while we give Dr Kennedy's words their fair meaning, we do not give them quite the meaning he intends them to have. The meaning he appears to intend is one not involving the efforts of the profession generally, but only hospitals. He asks us to believe that hospitals have increased and confirmed disease instead of relieving and lessening it. This restricted meaning is startling enough—not only startling, but awful; and we turn with alacrity to the work to find the proof of the most wholesale and dreadful accusation that has been ever seriously laid by a physician against not only his own profession, but the enlightened philanthropists of all time.

Before an old physician dares to bring forward a charge like this, he is expected to have proofs ready, complete, unanswerable, such that he that runs may read. Now, the fact is, that this book, so portentously appearing, is a small volume containing a paper read to the Obstetrical Society of Dublin, and the answer of the author of the paper to the criticisms made on the same by the members of the Society. Let us look at the discussion and see what impression Dr Kennedy made on those who heard the words flow hot and living from his mouth. It appears that his words burned no one. Seventeen gentlemen, equally old, eminent, and able, sprang up to say that they found nothing persuasive or convincing in the essay of Dr Kennedy. Among the seventeen, we find the experienced and exact M'Clintock, the learned and able Churchill, the sagacious Denham, the ingenious Kidd, the facetious Sawyer, the talented Mapother, the well-known and amiable Beatty, the emi-

nent and profound Stokes. All the seventeen remained unconvinced. Now, Dr K. appeals from his brethren to the world, and places himself under the ægis of the First Lord of the Treasury, flaunting his own Greek in the vizier's face.

So little does Dr Kennedy make of the wretched seventeen unbelievers, that he does not give us their comments on his essay—which, had he judged rightly, should have been regarded as essential to the completeness of his volume. Perchance they might have made his volume better money's worth. We recommend our readers who may wish to go fully into Dr Kennedy's paper, to read at length the seventeen criticisms, as they appear in the *Dublin Quarterly Journal of Medical Science* for August 1869.

Dr Kennedy begins by some ingenious remarks on zymosis, which have nothing whatever to do with the proof of his grand charge against the profession. Nothing more need be said of it.

Then our author proceeds to a short disquisition on treatment, which was not well received by his audience, and which we do not think it necessary to discuss.

Then come some cases of puerperal fever, which are also quite foreign to the topic; and then he plunges into what may be called the hypothetical basis of his paper. This consists of thirteen propositions.

The real heart of the paper is scarcely reached when it comes to an abrupt conclusion, leaving not one of the whole thirteen propositions even approximatively proved. Then comes the answer to the seventeen unbelievers, and here we find a good deal of shortness of temper.

Every one knows and acknowledges the evils of overcrowding an hospital. Dr Kennedy has made much of this as a cause of the spread of metria. No one will disagree with him in this, as a general statement, exemplified in many hospitals, especially foreign ones. But when overcrowding or conglomeration of patients is said to be the cause of metria in the Dublin Lying-in Hospital, a worthy doubter appears in Dr M'Clintock, who comes forward, and, with a few statements, turns aside the unwary assault on his cherished institution. We know nothing in this discussion better worth quoting than M'Clintock's propositions regarding the influence of aggregation of patients in the Rotunda. Dr J. Grimshaw's tabular view of Kennedy's facts is singularly pointless as a demonstration of anything whatever in connexion with this branch of the subject.

"Dr Kennedy," says M'Clintock, "lays it down as a corollary, 'that the generation and absorption of the metria contagium is *in direct proportion* to the number of parturient women cohabiting in their lying-in, and that its habitat is the great lying-in hospitals.' Let us test the truth of this proposition by an appeal to some simple facts.

"1. In the years 1842, 1843, and 1844, the deliveries in the Rotunda Hospital amounted to 6634, and 31 of these women died of puerperal fever, and of puerperal inflammation of one kind or another, being in the proportion of only 1 in 214.

"2. In the years 1850, 1851, 1852, and 1853, out of 7919 women confined in the hospital, 14 died of puerperal fever, or only 1 in 565.

"3. Again. For four and a half years successively (from 1829 to 1833), in the same hospital, with the annual number of deliveries exceeding 2150—double what they have latterly been—not a single death from puerperal fever occurred! That is to say, out of 10,785 patients delivered in the wards, not one died from puerperal fever. This statement would, perhaps, be scarcely credited if it did not rest on the unimpeachable testimony of Dr Collins.

"4. During the last fifteen years, the average number of patients in the Rotunda Hospital was very little more than one-half that of previous years, nevertheless the rate of mortality has been double as great.

"5. Within the same period of fifteen years, so often referred to by Dr Kennedy, the highest rate of annual mortality does not coincide with the years when the admissions were greatest, but quite the reverse.

"6. Dr Phelan states, that in the first three years of Dr Labatt's mastership, the immense number of 10,248 deliveries took place in the hospital, and only 57 women, or 1 in 180, died. During these years, be it remembered, the annual number of deliveries was treble what it has been for several years back; in fact, it was a common thing for the patients to be lying two in a bed!

"7. Lastly, to contradict the assertion that the rate of mortality is directly influenced by the size of the hospital, we may cite the New Ross Hospital, mentioned by Dr Kennedy. This little country hospital had an average of 30 admissions per annum, not a third of the annual admissions to the Waterford Hospital; nevertheless, its mortality was, to quote Dr Kennedy's own figures, 1 in 185, whilst that of the Waterford Hospital, with three times the annual number of deliveries, was only 1 in 227.

"It is demonstrable, then, from the experience of these hospitals, that the presumed generation and absorption of the contagium of puerperal fever being in 'a direct proportion to the number of parturient females' congregated together under the same roof, is incorrect, or must be received with some qualification which the author has not attached to it."

Leçons Cliniques sur les Maladies Chirurgicales des Enfants, professées par M. J. GIRALDES, Chirurgien de l'Hôpital des Enfants Malades ; Professeur agrégé de la Faculté de Médecine de Paris ; Membre de la Société de Chirurgie ; Chevalier de la Légion d'Honneur. Recueillies et publiées par MM. BOURNEVILLE et E. BOURGEOIS, Internes des Hôpitaux de Paris. Revues par le Professeur. Avec 65 figures intercalées dans le texte. 8vo, pp. 862. Paris: Adrian Delahaye: 1869.

COMPARING works on Medicine and Surgery published in this century with those prior to the eighteenth, or even of last century itself, no more remarkable difference will be found than this,—that the writers of this age limit the range of their treatises to one branch of medical science, while those of the past deemed themselves competent to instruct in every field of medical or even scientific study. It is needless to give instances: nearly every eminent writer on medicine whose works have lasted a century, will be found to treat of medicine, surgery, and midwifery indiscriminately, and with equal zest. Cases are mingled in the most impartial manner ; and the work very possibly commences with a brief treatise on anatomy or chemistry, or perhaps even with a short synopsis of universal history.

In the present day, not only have the three great branches of Medicine, Surgery, and Midwifery been thoroughly differentiated from each other, and from natural science, but even in each of them have many subdivisions been made ; and authors aim at the accuracy and fulness of monographs, rather than the breadth and copiousness of encyclopædias. Without stopping to argue in favour of the new method, even though it may sometimes be carried so far as to be absurd, it is very obvious that much good is gained by directing special attention to the diseases of childhood, differing as they do in so many respects, both as to progress and treatment, from similar affections in the adult or aged.

The literature of children's diseases has very largely increased within the last quarter of a century, since the establishment of special hospitals for their study ; for though Armstrong (1783) and Underwood (1798) wrote in the end of the last century, and Capuron (1817), and Hamilton (1813), and Hume (1802), in the beginning of the present, nothing like the number of special treatises had appeared then as does now annually ; nor is this to be wondered at, when we remember that the great hospitals for sick children which exist now in nearly every European capital have all, with one exception, been built since 1835. The one exception is the Paris Hospital for Sick Children, which was founded in 1802. The only attempt prior to this to treat children's diseases in a separate way, was that of Dr Armstrong in London, who founded a dispensary there in 1791.

The surgical diseases of children have only very lately been honoured with special treatises, and mainly in this country. Of six treatises alluded to by Giraldes, four are English,—those of Athol Johnson, Forster, Bryant, and Holmes; and of these the last only can be said even to aim at being a complete or exhaustive account of the subject. The work we have now under review consists of an abstract of seventy-two clinical lectures on the surgical diseases of children, delivered during the years 1862, 1865, 1866, 1867, reported and arranged by three house-surgeons, MM. Bourneville, Bouteillier, and Bourgeois, and revised by M. Giraldes himself.

From the nature of the subject, the lectures are grouped without much attention to scientific arrangement, but given just as delivered, two or three cases, widely differing from each other, being treated of in the same lecture, as chance and necessity required.

As in most cases where operation was needed, it was performed during the lecture, so these abstracts bear a very strong practical impress—what to do, and how to do it, being taught with care, theory and historical completeness being subordinated. This adds greatly to the value of the work, and makes it a most useful companion to Mr Holmes's treatise, which is arranged systematically, and is much more full and detailed.

Of course many of the lectures treat of surgical maladies to which adults as well as children are liable, and contain much which might with equal justice be found in a treatise on general surgery; but in every instance a child furnished the text, and served to illustrate and enforce the lecture.

The reader will be much struck in these admirable lectures by the union of plain, practical, common-sense observations on diagnosis, prognosis, and treatment, with a very considerable and remarkable amount of reference to the labours of others, exhibiting erudition and labour in selection. We notice especially with pleasure, not unmixed with surprise, the very full recognition of British authorities; showing that M. Giraldes has an amount of acquaintance with British surgical literature most unusual in French surgeons.

The lectures have been to a certain extent arranged on a system, not in chronological order; though, as we have already noticed, those cases which happened to be discussed during the same hours still remain associated. The system is a division into three classes,—1. Congenital affection; 2. Acquired; 3. Traumatic; corresponding very closely to the threefold division of Mr Holmes into malformations, injuries, and diseases, though in different order.

We cannot attempt to analyze all the lectures in this very important work. One or two may be briefly noticed. The lectures on Hydrocephalus and Spina bifida are both learned and practical. On the treatment of the latter, M. Giraldes says sensibly—

“I believe we should reject as dangerous, and still worse, insufficient, so-called curative measures, and confine ourselves to attempts at palliation, except

in cases where we have to deal with a tumour, single, pediculated, comparatively small in size, and situated either in the cervical or dorsal regions,—in these conditions, one may, without presumption, hope that the tumour contains no nervous structures, and consequently take the risk of removing it entire. This I have done twice with success.”—P. 36.

Four lectures on clubfoot and regeneration of tendons, without containing anything very novel or startling, must have given his students a good practical account of the malformation, and the means of remedying it.

The lectures on harelip will be read with great interest, as they contain a very full account of the author's method of procedure, and also of the modification of incision which he has invented, and to which he has given the name of “*procédé à mortaises*.” In this, by *dovetailing* and retaining more than is generally done of the edges of the cleft, the author succeeds in reducing deformity even in those bad cases in which one side of the cleft is much longer than the other. It, when properly used, avoids the double risk of disturbing the nose, or leaving a cleft showing the position of the scar.

The lecture on the operation of tracheotomy is excellent. Good practical directions are given, and careful dissection in the middle line is wisely recommended in preference to any of the more rapid and showy methods of operating by one incision, even with the guidance of a sharp director previously introduced.

On the subject of anæsthetics, M. Giraldes, like all other surgeons who have had much to do with operations on children, is profoundly impressed with their value:—

“Anæsthesia either by the use of chloroform or ether, is a most precious and indispensable assistance in the practice of surgery on children; and to make you thoroughly to understand how deep my convictions on this point are, I would say to you, that even if anæsthesia had to be abandoned in the general practice of surgery, it would still be needful to use it in the practice of surgery on children.”—P. 194.

A case of that rather rare and puzzling complaint, retropharyngeal abscess in children, gives occasion to an interesting and instructive lecture on the subject, the treatment advised being for opening either with a guarded knife or a trocar in the middle line.

A considerable number of lectures are devoted to cases of diseases of the eye and ear, as they show themselves in children. Those diseases are generally in this country included in special treatises on the eye and ear, and not in special treatises on children's diseases.

A very remarkable case of rupture of the urethra will repay perusal. In it the bladder could not be relieved *per urethram*, and was eventually punctured above the pubes, and an instrument then carried from the opening above the pubes, into and through the bladder into the urethra, from within. This method was used in 1864 by M. Sedillot in an adult, with the result of re-establishing the passage.

Hip disease and its treatment forms the text of six lectures. M. Giraldes has performed resection seven times, with five deaths. He

gives the results in one case observed eighteen months after operation, in which there was three inches of shortening, and the child still walked on crutches.

The last lecture is devoted to an account of the various methods of dressing wounds, and to a brief notice of the antiseptic system, in which, however, if our author understands the principle and aims of Lister's method, he certainly does not explain it so as to make any one reading the lecture know anything of it.

We would finish this notice, already too long, by saying that M. Giraldes has, by the publication of these lectures, conferred a benefit on the profession, and that the editors seem to have done their part of the work well and conscientiously.

The Mechanism of Dislocation and Fracture of the Hip, with the Reduction of the Dislocations by the Flexion Method. By HENRY J. BIGELOW, M.D. Philadelphia: Henry C. Lea: 1869.

THIS work, which is beautifully printed and illustrated, is well worthy of the careful attention of practical surgeons, and will, we are sure, deservedly add to the reputation of its distinguished author. The author commences by giving a short but complete abstract of the contents, which forms a valuable aid in the study of the book, and which, therefore, we think best to quote at length.

"1st. The anterior part of the capsule of the hip joint is a triangular ligament of great strength, which, when well developed, exhibits an internal and external fasciculus, diverging like the branches of the inverted letter Y. It rises from the anterior inferior spinous process of the ilium, and is inserted into nearly the entire length of the anterior intertrochanteric line.

"2d. The Y ligament, the internal obturator muscle, and the capsule subjacent to it, are alone required to explain the usual phenomena of the regular luxations.

"3d. The regular dislocations are those in which one or both branches of the Y ligament are unbroken; and their signs are constant.

"4th. The irregular dislocations are those in which the Y ligament is wholly ruptured; and they offer no constant signs.

"5th. In the regular dislocations of the hip, the muscles are not essential to give position to the limb, nor desirable as aids in its reduction.

"6th. The Y ligament will alone effect reduction and explain its phenomena, a part of those connected with the dorsal dislocations excepted.

"7th. During the process of reduction, this ligament should be kept constantly in mind.

"8th. The rest of the capsule, except perhaps that portion beneath the internal obturator tendon, need not be considered in reduction, if the capsular orifice is large enough to admit the head of the femur easily.

"9th. If the capsular orifice is too small to allow easy reduction, it should be enlarged.

"10th. The capsular orifice may be enlarged at will, and with impunity, by circumduction of the flexed thigh.

"11th. Recent dislocations can be best reduced by manipulation.

"12th. The basis of this manipulation is flexion of the thigh.

"13th. This manipulation is efficient, because it relaxes the Y ligament, or because that ligament, when it remains tense, is a fixed point, around which the head of the femur revolves near the socket.

"14th. The further manipulation of the flexed thigh may be either by traction or rotation.

"15th. The dorsal dislocation owes its inversion to the external branch of the Y ligament.

"16th. The so-called ischiatic dislocation owes nothing whatever of its character, or its difficulty of reduction by horizontal extension, to the ischiatic notch.

"17th. 'The ischiatic dislocation' is better named '*dorsal below the tendon*,' and is easily reduced by manipulation.

"18th. The flexion of the thyroid and downward dislocations is due to the Y ligament, which, in the first, also everts the limb, until the trochanter rests upon the pelvis.

"19th. In the pubic dislocation, the range of the bone upon the pubes is limited by this ligament, which, in the sub-spinous dislocation also, binds the neck of the femur to the pelvis.

"20th. In the dorsal dislocation with eversion, the outer branch of the Y ligament is ruptured.

"21st. In the anterior oblique luxation, the head of the bone is hooked over the entire Y ligament, the limb being then necessarily oblique, everted, and a little flexed.

"22d. In the supra-spinous luxation, the head of the femur is equally hooked over the Y ligament, the external branch of which is broken. The limb may then remain extended.

"23d. In old luxations, the period during which reduction is possible is determined by the extent of the obliteration of the socket, the strength of the neck of the femur, and the absence of osseous excrescence.

"24th. Old luxations may possibly require the use of pulleys, in order by traction to avoid any danger which might result to the atrophied or degenerated neck of the bone from rotation.

"25th. Right-angled extension, the femur being flexed at a right angle with the pelvis, is more advantageous than that which has usually been employed.

"26th. To make such extension most effective, a special apparatus is required."

The latter part of the work treats of fractures of the neck of the femur, and we feel that we cannot better explain the author's views on this subject than quote his abstract of the important points to which he directs attention. These are—

"1st. The terms intra- and extra-capsular, applied to these fractures, have little practical significance.

"2d. When a fracture near the head of the femur shows bony union, it is often impossible to say whether such a fracture was originally inside or outside of the capsular ligament.

"3d. These fractures are therefore better divided, for practical purposes, into, 1st, the impacted fracture of the neck into the trochanter; 2d, other fractures of the neck.

"4th. In this impacted fracture, the limb is everted, because the posterior cervical wall is almost always impacted, the anterior very rarely, and in a less degree.

"5th. These conditions mainly result from the relative thickness of the two walls.

"6th. While eversion is due to the rotation of the fractured bone on a hinge formed in the anterior cervical wall, shortening is generally due to the obliquity of this hinge.

"7th. In a well-formed bone, the posterior and thin surface of the neck of

the femur is prolonged into the cancellous structure beneath the intertrochanteric ridge, and is the true neck.

"8th. The posterior intertrochanteric ridge is a buttress built upon the true neck, by which, when impacted, this ridge is sometimes split off.

Exercises in Practical Chemistry. By A. G. VERNON HARCOURT, M.A., F.R.S., etc.; and H. G. MADAN, M.A., F.C.S. Series I. Qualitative Exercises. Oxford: Published at the Clarendon Press.

THIS, as the authors tell us in the preface, is intended to be a handbook for the beginner in chemistry, especially for one prosecuting the study without the assistance of a teacher. The book commences with a page and a half of "memoranda," or general rules to be observed in laboratory work. These we earnestly recommend to the student's attention. After two chapters, the one containing a list of apparatus, and the other a list of substances required, we come to "Part I.," entitled "Experiments on the Preparation and Properties of Substances," which is divided into five "sections." The first of these contains "preliminary exercises," including fusion, glass-working, solution, evaporation, filtration, etc., with the use of the pneumatic trough. Section II. treats of the "preparation and examination of gases." Section III. of the reagents used in the laboratory. Section IV. is devoted to experiments with the blow-pipe; and in Section V. the student is made acquainted with "the properties of the principal Radicles and their salts." Section II. we think might have been advantageously deferred to a later chapter, as the study of gases involves a number of manipulations difficult of acquirement, and not unattended with danger, especially when carried out by a tyro as yet but little acquainted with the substances and instruments in his hands. Part II. is devoted to the "qualitative analysis of single salts," for which the authors, as they acknowledge in the preface, are indebted to Fresenius. In the appendix we find some "suggestions for the construction of chemical apparatus," which we think might have been very advantageously omitted. The young chemist is ever prone to lapse into the mechanic under the delusion that, by making his own apparatus, he is saving money, whereas he is only losing his time and squandering his money on tools, with the danger of losing sight of his main object by paying too much attention to the accessories. The next chapter is devoted to the "recovery of silver, gold, and platinum from residues." Then follow tables of solubilities, and weights and measures, with a page on the comparison of thermometric scales; and the book finishes with a chapter on chemical symbols. Viewing this work as a whole, we can confidently recommend it to the beginner, reminding him at the same time, that neither with it nor with any other book will he be able profit-

ably to spend his time in a laboratory without some previous instruction in chemistry either from a teacher or, where this is impossible, from private reading.

Chemistry : General, Medical, and Pharmaceutical, including the Chemistry of the British Pharmacopœia. By JOHN ATTFIELD, Ph.D., F.C.S., etc. London: Van Voorst.

"THIS Manual," we read in the preface, "is intended as a systematic exponent of the general principles of chemistry. It is written for students of medicine and pharmacy, and will be found equally useful as a reading-book for gentlemen having no opportunities of attending lectures or performing experiments, and as a hand-book for college pupils." The task, therefore, which the author proposes to himself is by no means an easy one. To write a book which shall satisfy the student of chemistry for chemistry's sake, and also meet the special requirements of medical and pharmaceutical students preparing for their examinations, is no light matter, and we cannot wonder that the author hardly succeeds in such an arduous undertaking. For students of pharmacy—and these the author has evidently had particularly in view—the book has much to commend it; indeed the first part, which treats of the commoner metals, with their "official preparations," is more of a commentary on the Pharmacopœia than anything else. The method of introduction to a knowledge of the properties of the bases by a combination of synthetical and analytical examples, seems to us particularly happy and worthy of imitation; but the treatment of the metalloids is not by any means so successful. We have to look for a description of their properties in three different chapters. Under the heading "General Properties of the Non-metallic Elements," we have a few pages on oxygen, hydrogen, phosphorus, nitrogen, chlorine, sulphur, carbon, and iodine. Further on, under the title, "Common Acidulous Radicals, Official Acids and Tests," we find chlorine, bromine, and iodine compounds associated with oxalic, tartaric, and other acids; while for fluorine we have to look in the next chapter, entitled "Salts of rarer Acidulous Radicals," amongst benzoic, cyanic, lactic, and other acids. This unnecessary subdivision and mixing up of substances so unlike one another must be very apt to produce confusion in the mind of the learner. The rest of the book is taken up with chapters on analysis, qualitative and quantitative, the properties of alkaloids and other organic bodies, toxicology, and the analysis of urine. In the Appendix we find numerous tables, amongst others a "Table of Official Tests for Impurities in preparations of the British Pharmacopœia," all of which will be found of more or less use to the medical or pharmaceutical student, for whom, as before remarked, the book is best suited and

has evidently been intended. For the purely chemical student of chemistry, however, there are other manuals which would deserve to be preferred.

Elements of Chemistry: Theoretical and Practical. By WILLIAM ALLEN MILLER, M.D., D.C.L., LL.D., etc. Fourth Edition. Part III., Organic Chemistry. London: Longmans.

DR MILLER'S text-book of chemistry has from the first held a deservedly high place among the larger manuals. It is to the present what Turner's Chemistry was to the last generation of students, and has much in common with that excellent text-book. It is a judicious compromise between a complete "hand-book" or book of reference, and a theoretical sketch. The general principles of the science are clearly explained and fully illustrated, while special prominence is given to those points of detail which have a practical bearing.

In the present edition some changes (all of them improvements) and some useful additions have been made, but the general character is unchanged, so that it is unnecessary for us to criticise it minutely. There are still left some points to which we think exception may be taken. Thus, although Dr Miller gives reasons, which we admit have some weight, for beginning with the consideration of the sugars and allied bodies, we believe most teachers will agree, that it is practically more convenient, as well as theoretically more consistent, to begin at the beginning and take the least complicated carbon compounds first. Again, in illustrating the doctrine of atomicity, p. 60, Dr Miller repeats in this edition the very curious error, committed in the third edition, of representing "boric anhydride" as

$O=B-B\begin{smallmatrix} \diagup O \\ \diagdown \end{smallmatrix}$ (instead of $O=B-O-B=O$), thus removing it from

the boric series altogether, and rendering all its reactions in the highest degree complicated and unnatural.

There is another small point, not so much of chemical as of orthographical interest, to which we think it right to refer. In a note, p. 41, Dr Miller says, "The German term *radikal* (from the Latin *radix*, a root) is commonly, but inaccurately, translated *radical*, which is properly an adjective, the word *radicle* being the appropriate rendering." We should be glad, in the interests of the purity of the language, to believe that *radical* was commonly used, but we fear that Dr Miller's translation is more frequently followed. The German *radikal*, and the French *radical*, are as much adjectives as the corresponding English word *radical*, and the three have exactly the same meaning. Some such substantive as *part* or *constituent* is understood; and when we say that oil of bitter almonds

and benzoic acid contain the same "radical," we mean that they contain the same radical or fundamental group. The word is certainly not perfectly descriptive, but it is surely more appropriate than *radicle* or *rootlet*. The French and German words corresponding to *radicle* are *radicule* and *würzelchen*.

These are, however, points of detail, and do not interfere with the general excellence of the book, which we can cordially recommend.

Part Third.

MEETINGS OF SOCIETIES.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION XLIX.—MEETING I.

Wednesday, 3d November 1869.—Dr OMOND, *President*, in the Chair.

I. *Mr Annandale* exhibited AN ARM WITH THE ENTIRE SCAPULA AND PORTION OF THE CLAVICLE attached which he had removed from a young man employed in a biscuit manufactory. He had met with a most singular accident, the skin having been torn from the scapula and rolled entirely off the arm down to the middle of the forearm, turned inside-out as a glove might be. The patient sank upon the third day.

II. THE HEAD OF A FEMUR resected on account of the great pain which had entirely prevented sleep for several days, and was exhausting the patient. The whole articular surface was carious, but the acetabulum was quite healthy, and the patient was likely to do well.

III. AN EPITHELIAL CANCER OF THE PENIS, remarkable on account of the great age of the patient, 86 years. He recovered from the operation, but the disease returned.

IV. THE LOWER END OF A FEMUR which was inflamed and simulated disease of the knee-joint. There was a cavity in the lower end of the femur in which lay several pieces of dead bone.

V. A TUMOUR OF THE UPPER JAW removed from a woman, who recovered.

VI. *Dr P. H. Watson* exhibited a MULBERRY CALCULUS removed from a man aged 30. He had laboured under symptoms of stone from childhood, but these had been in abeyance for some years; they recurred, however, with great severity, and completely deprived the patient of all rest. A sound introduced passed beneath the calculus and conveyed the rugose sensation of a mulberry calculus. A lithotrite sound was next introduced, and by it the calculus was found to measure one inch in all its diameters. A small corner was then snipped off by the jaws of the instrument, and was found to consist of oxalate of lime. Being thus, from its supposed size and structure, wholly unsuited for lithotripsy, lithotomy was performed by the lateral operation, and the stone on being extracted was found completely to verify in every respect the diagnosis that had been made.

VII. A URETHRAL CALCULUS extracted from a lad.

VIII. A SALIVARY CALCULUS which lay far back in the duct, and had produced no symptoms except that of a sore tongue, which had been variously treated. Careful examination with the finger detected the hard body, and the diagnosis was simplified by the calculus having been broken, and thus giving sensation of crepitation. It was readily removed.

IX. A PIECE OF SKULL removed by the trephine from the frontal bone of a boy who had been struck on the forehead by a stone some time previously. Suppuration had continued for nine months, and on its cessation coma with convulsions set in, which lasted for a day or two, and ceased on the wound being laid open. A probe was found to pass into a cavity an inch and a half in depth, the skull over this was therefore trephined, giving vent to about a wineglassful of pus. On the completion of the operation a slight attack of trismus occurred, but speedily ceased. Besides the fluid, there escaped from the wound a substance resembling a *fungus cerebri*, but this, on closer examination, was found to be only the pappy material with which the abscess was lined. As the wound healed, and by-and-by closed, the convulsions recurred, but they ceased again on its being opened up by a probe. The patient is going on well.

X. A POLYPUS which protruded from the external meatus. It was accompanied by no suppuration and had no bad smell. It was readily removed by a pair of fine forceps.

XI. *Dr Halliday Douglas* exhibited A DISEASED HEART, in which there existed the not very frequent combination of great contraction of the aortic and mitral orifices, with considerable hypertrophy of the left ventricle. The patient at first laboured under dropsy; she subsequently had an attack of acute pneumonia, from which she made a complete recovery in spite of her damaged condition, finally succumbing, some months afterwards, to an attack in which congestion of the liver and jaundice were prominent.

XII. AN ANEURISM OF THE AORTA, the posterior wall of which had been formed by the bodies of the dorsal vertebrae. The cavity of the aneurism was largely occupied by a bulky and firm coagulum. The gullet and the trachea immediately above the bifurcation, were compressed by the tumour, which affected the transverse portion of the arch and the descending aorta for five or six inches. Besides other points of interest, the case was remarkable for the existence of strongly marked bronchial breathing heard loudly at the ensiform cartilage, with increasing intensity as examination was made upwards.

XIII. *Dr Argyll Robertson* exhibited a patient affected with MYOSIS, illustrative of XIV., his paper, which he then read, upon SPINAL MYOSIS, with some remarks on the action of light on the pupil, and containing the histories of four illustrative cases.

This paper appears at page 487 in the present number of this Journal.

Mr Benjamin Bell remarked upon the great scientific interest of the paper, and complimented the author on the accuracy and care with which his cases had been narrated.

XV. *Dr P. H. Watson* read a case of PARTIAL EXCISION OF THE SCAPULA for tumour. *Mr Annandale* and *Dr Omond* made remarks.

XVI. *Dr A. G. Miller* read a paper upon POLYPUS OF THE RECTUM. *Dr Matthews Duncan* and *Mr Annandale* made a few remarks upon the subject. This paper will appear in an early number of this Journal.

PROCEEDINGS OF THE EDINBURGH OBSTETRICAL SOCIETY.

SESSION XXVIII.—MEETING XVI.

14th July 1869.—Dr BURN, *President*, in the Chair.

Thomas Davis, L.R.C.P., M.R.C.S.E., and T. McMillan, M.D., were elected Corresponding Fellows of the Society.

I. *Sir James Simpson* exhibited a new cephalotribe, and made some remarks upon it.

Dr Keiller said he was quite satisfied that the principles held by *Sir James Simpson* would be carried out in practice. A bulky instrument was not required, and the more like the forceps the cephalotribe was made the better. He had used the small instrument introduced by *Sir James*, and had found that it answered every purpose. In regard to what had been said as to the malar bones, he was of opinion that there were very few cases in which the face required to be squashed.

II. TWO CASES OF CONVULSIONS DURING DENTITION ARRESTED BY SCARIFICATION OF THE GUMS. BY G. STEVENSON SMITH, L.R.C.S.E.

Since *Dr Cairns* communicated his able paper on the Scarification of the Gums to this Society, I have chanced to meet with two cases of convulsions in young children, in whom the violent and alarming excitement of the nervous system was completely allayed by lancing the gums.

A. M., aged six months, a sickly-looking infant, had not been well for a day or two, and when I was asked to see him he had much heat of skin and of the head, and had vomited several times. The pulse was sharp and quick, and for twenty-four hours there had been numerous successive attacks of general convulsions. Failing to find any cause for the fits in the state of the general health, I examined the mouth, and found the lower gum red, tumid, and glistening. I divided its tense margin with a lancet, and the little patient appeared to get immediate relief. At my visit next day, I found him lively and contented, the temperature had fallen, the gastric irritation had subsided, and there had been no more convulsions.

L. S., aged eight months, had been fretting much for some days, was hot and restless at night, had a burning head, quick pulse, and a ceaseless whining cry. I found that he had had repeated attacks of convulsions, and when I arrived he was in a state of opisthotonos, this condition having existed for several hours. Having carefully examined the child, I found nothing to account for the nervous symptoms, save that the upper gum was hot, red, and swollen. He had cut the two lower incisors. I drew the point of a lancet across the tumid gum, and next day I found that the opisthotonos had passed away very soon after the operation. There were no more fits, and the child was comparatively well. The two upper incisors made their appearance in two days, and when I saw the child the other day he was in perfect health.

Similar cases I have frequently met with before, and the members of the Society must have had the same experience.

In *Dr Cairns's* paper three questions were put, which I shall now endeavour to answer *seriatim*.

1st, Does scarification do any good? Does it relieve local pain or prevent and arrest convulsions, laryngismus stridulus, diarrhoea, etc.? To this I reply in the affirmative. It does relieve local pain in many a case, and how this can be doubted for a moment I am at a loss to understand. The little patient cannot speak, says *Dr Cairns*, and how can you be sure that you have given relief? It seems to me, that, if we cannot interpret the feelings of a little child because it has not yet acquired the use of articulate speech, we are not well fitted to treat the diseases incident to infancy, and have yet to cultivate a most important part of our professional education. The simple wagging of a dog's tail conveys to his master a clear and distinct expression

of the feelings which animate his canine breast; and do not the calm repose, the sparkling eye, the joyful crowing of our little patients manifest their relief from suffering as decidedly as the sleeplessness, the fretfulness, and the shrill cry of pain tell of discomfort and distress? But Dr Cairns does not believe that by abstracting blood from an inflamed part you can in the least degree either reduce or modify the inflammation. The part, he says, continues to be as red, as hot, and as painful as before. Such ideas are only to be explained on the supposition that our friend never practises local depletion, and is consequently a stranger to the beneficial effects of such a remedy. Has he never seen relief following the opening of an abscess, or the application of leeches to a swelled testicle or to the belly in a case of acute peritonitis? If he has not, then I can easily comprehend why he doubts that the abstraction of a little blood from a congested gum can alleviate pain.

That scarification may prevent and arrest convulsions I firmly believe, and in this opinion I know that I am supported by a perfect cloud of witnesses. Dr Brown-Sequard has shown how easy it is by pinching or otherwise irritating certain nervous filaments in the guinea-pig to induce convulsions; and I think one can without difficulty understand how irritation of the branches of the fifth pair may produce convulsions in infants whose nervous system is so susceptible of impressions. That the convulsions in my two cases were caused in this way, and that they were arrested by relieving the congested gums, I have not the faintest shadow of a doubt. Dr Cairns may say that the cessation of the attacks following upon scarification was a mere matter of coincidence and nothing more, and that the convulsions might have disappeared even suppose nothing had been done. This I do not deny; but I am inclined to think that, instead of ceasing spontaneously, there was a much greater probability that they would have continued. Besides, this is not, in my opinion, the proper spirit in which one should discuss the influence of any remedial measure. The progress of medical and all other science is no doubt furthered by a certain amount of wholesome scepticism, but surely it must be retarded if we doubt everything and believe nothing. As was well remarked by Dr James Young, in a previous discussion on this subject—"It is imperative, in cases of convulsion, to give every relief we have in our power, and there should be no waiting to see what nature is going to do." I do not consider myself a heroic practitioner in any sense of the term, but at the same time I have no sympathy with those who stand idly by when something ought to be done. There is a great deal of truth and a spice of grim humour in the remark of one of the fathers of medicine, that the expectant treatment of disease is "a meditation upon death." And I think it is highly culpable to refuse to perform so trifling an operation as scarification of the gums when we are convinced that it is in them that the source of the irritation resides.

Dr Cairns's second question was, Does scarification do any harm? To this I reply that, so far as my experience goes, it does not. Indiscriminate lancing of the gums cannot but be productive of mischief, but in properly selected cases I believe the operation is never followed by any evil consequences. That it may occasionally lead to fatal hæmorrhage I cannot deny; but such cases are extremely rare, and can only be regarded as accidents, against which it is almost impossible to provide. The extraction of a tooth may lead to death in the same way, but no one should on that account denounce the operation as an unjustifiable one. Besides, as Dr Ritchie suggested, the existence of the hæmorrhagic diathesis might be ascertained by inquiry as to the history of the vaccination.

Dr Cairns's third question was, Is scarification in the circumstances warrantable? He thinks it is not, because it inflicts unnecessary pain, superinduces some of those conditions which it professes to remedy, and, at the best, is a mere experiment. In regard to the two first mentioned reasons, I have nothing further to say than merely to repeat what I have stated already, that in properly selected cases no such objection can be for a moment entertained. But he says scarification is at the best an experiment. Now, by an experi-

ment I understand something that is done in order to discover an uncertain or unknown effect. But the effect of scarification is neither unknown nor uncertain, and therefore scarification cannot properly be called an experiment.

We know positively that irritation of a nerve-trunk may induce convulsions, and in dentition how very often do we find the trifacial excited by inflammation of the gum. The lancing relieves congestion, tension, and pain, and by allaying irritation prevents or arrests convulsion. Such, at all events, is my belief—a belief which the experience of my seniors tends to strengthen and confirm.

Dr Cochrane quite approved of the principles which had been expressed.

Dr Fraser begged to repeat what he had said at a previous meeting—that he had in his own person experienced the very greatest benefit from scarification, and he had often seen the operation followed by similar results in children.

Dr Keiller said that he believed dentists entertained the idea that scarification of the gums gave relief in many cases. He himself knew of numberless cases where mischief had been averted by lancing the gums, and he believed that the good effected was to be attributed to the relief of congestion by depletion.

Dr Bryce remembered a case of slow dentition in a child, where lancing the gum put an end to violent spasmodic twitchings of the muscles. His own youngest child was subject to violent cough at the cutting of every tooth. He tried scarification, and the cough disappeared.

Dr Cappie had seen the benefits of scarification in his own children.

Dr Bruce thought there were few practitioners who did not find good results from scarification. He had seen several cases where serious nervous symptoms were arrested by it.

Dr Menzies had seen a child who was screaming, sleepless, and feverishly hot, in whom the upper incisors were coming and the gum was tender. He scarified the gum, and the child almost immediately fell asleep, and was quite well afterwards.

Dr James Young said that he cordially agreed with Dr Stevenson Smith in the opinions which he had advanced. Dr Young had obtained in the course of his experience ample testimony to satisfy him that it was the duty of every medical man to relieve children of the pain and other concomitant sufferings which resulted from dentition. He had that day seen a patient in Minto Street where scarification of the first two lower incisor teeth was performed, and that within one hour the child was relieved from pain, indicated by crying, vomiting, and febrile excitement. Dr Young said he could mention dozens of cases of the same kind, which would, however, only become tedious in detail, and, therefore, he would merely add that the views brought forward by Dr Smith would, in his opinion, stand the test of practice.

Part Fourth.

PERISCOPE.

REPORT ON OPHTHALMOLOGY.

By Dr ARGYLL ROBERTSON.

DR J. STILLING ON THE CURE OF STRICTURE OF THE LACHRYMAL CANAL BY INCISION.

THIS new method of treatment consists in the division of the stricture by passing a narrow knife down the lachrymal canal, and dividing the constriction in several directions. After the division no attempt must be made to dilate pas-

sage. The elastic and muscular fibres which exist under the mucous membrane cause the incisions thus made to gape; and if the case be left to nature, a new, soft, inelastic tissue fills up the spaces between the edges of the incisions, and thus the canal is widened. But if probes are passed after the stricture is cut, irritation is set up, leading to suppuration and excessive formation of connective tissue; as a consequence of which, cicatritial contraction ensues, with narrowing of the passage.

In performing the operation, the knife is introduced through the puncta and canaliculi into the sac, and then passed down to the stricture, which is divided; the knife is then withdrawn and reintroduced with the edge differently directed, and this repeated several times till the knife can be readily rotated when in the strictured part.

In nine cases in which he had recourse to this procedure, Dr Stilling was pleased with the results obtained.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 58.

DR WARLOMONT ON THE TREATMENT OF STRICTURE OF THE LACHRYMAL CANAL BY DIVISION.

The method of treatment employed is that of Dr Stilling. He confirms Dr Stilling's views, and has found it unnecessary to have recourse to dilatation after division of the stricture. The operation itself is seldom followed by any other sequelæ than a slight ecchymosis of the lower lid. Eight cases are narrated, in all of which the treatment appears to have proved most successful. In addition, Dr Warlomont states that he has had above twenty other cases in private practice, in which similar results were obtained. He has hopes that the cure will prove radical. In none of the cases has he as yet observed a relapse. In cases where the membrane of the canal is affected with chronic inflammation, attended with muco-purulent secretion ("Blenorrhœa"), Dr Warlomont recommends, in addition to the division of the stricture, the employment of injections of chloride of zinc (gr. j. ad $\frac{3}{4}$ v. vel vj.) three times a day. For injection he employs the instrument constructed by M. Libbrecht. If this treatment is adopted in these cases, the muco-purulent secretion usually ceases in five or six days.—*Annales d'Oculistique*, tome lx. p. 117.

CASE OF DOUBLE AMAUROSIS FOLLOWING HÆMATEMESIS AND INTERMITTENT SPINAL NEURALGIA. BY DR JACOBS, EUPEN.

The patient, a lady forty-two years of age, had, without any assignable cause, two severe attacks of hæmatemesis, the second occurring two days after the first, accompanied by extreme prostration. The day after the second attack the patient was suddenly seized with an excruciating pain in the neck, which lasted for several days, but which yielded to sulphate of quinine and opium, with cold local applications. On the twelfth day from the commencement of the illness, the patient complained of dimness of sight. The pupils were dilated, and responded imperfectly to the influence of light. The dimness increased daily, till on the fifth day there was no perception of light, and the pupils were dilated and immobile. On ophthalmoscopic examination three weeks after impairment of vision was first noticed, the retinal veins were found dilated, and black spots and extravasations of blood observed in both retinae. Six years later, the patient was again examined with the ophthalmoscope. The optic nerves and retinae were atrophied, and black spots still existed in the retinae. Although in other respects the lady enjoys excellent health, she remains blind.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 90 (extracted from *Berl. Klin. Wochenschr.*).

EBERT ON TEMPORARY BLINDNESS IN TYPHUS AND SCARLET FEVERS.

Four cases are narrated. The first being that of a girl ten years of age, who, on the fourteenth day of typhus fever, had severe epistaxis, which lasted several hours before it could be stopped. On the following day the child was quite

blind. The blindness lasted thirty-six to forty hours, after which the patient could perceive the light of a lamp, and in three days perfect vision had returned.

The second case was that of a boy, eleven years old, who had an ordinary attack of scarlet fever. On the seventeenth day there was slight general anasarca; the urine was scanty, dark-coloured, and very albuminous. A week later the boy had severe headache, sickness, heaviness of the eyelids, pain in the supra-orbital region, and delirium. The urine was very scanty, of a reddish colour, and muddy, but free from albumen. The patient became drowsy, and eventually an attack of tonic spasm occurred, which lasted several minutes, and was followed by insensibility. The following morning he awoke with severe headache, and completely blind. The blindness lasted about thirty-six hours, and then gradually passed off, the patient recovering perfect vision on the third day. The boy was examined ophthalmoscopically on the second day. Beyond a slightly tortuous condition of the retinal vessels of the left eye, the fundus appeared healthy. It was, however, remarkable that the pupils responded to the influence of light during the period of blindness, and that, with improvement in vision, the amount of albumen in the urine increased.

A similar series of symptoms characterized the third case, a girl of four years, affected with scarlatina. In her case the blindness lasted about forty-eight hours.

The last case was that of a boy, eight years of age, who, on the eighth day after the appearance of the scarlatina eruption, was observed to have œdema of the face, and scanty, muddy, and albuminous urine. Fourteen days later severe convulsions occurred, with insensibility, which lasted eight hours, and was followed by deep sleep. The boy awoke about midnight completely blind, but the pupil was observed to contract readily under light. The blindness only lasted till mid-day, and perfect vision had returned by the following day. The attack, therefore, only occupied about twenty hours. The very scanty urine passed immediately before and after the attack contained merely a trace of albumen, and contrasted with the condition of the urine passed previously and also shortly after the attack. After a time the general symptoms became aggravated, and the boy died from œdema of the lungs.

In reviewing the causes that might produce the temporary blindness in these cases, Dr Ebert considered that simple cerebral congestion could scarcely occasion such impairment of sight, that blindness due to loss of blood or following retinitis lasts at any rate longer than three days, and that paralysis from blood-poisoning is also of longer duration, and is not so sudden in its accession. Von Graefe's observations in cases of cholera have also shown that even in the highest degree of ischæmia vision is not markedly impaired. The most probable explanation appears to him to be, that a temporary œdema of the optic nerves in their intra-cranial course, or, more properly, in the region of their origin, had interfered with the function of these nerves. In favour of which view he alludes to the fact, that temporary œdema of the skin on internal organs, especially the lungs and brain, is often noticed.

Von Graefe (who presided at the meeting at which Dr Ebert's paper was read) remarked, that a chief peculiarity of the blindness in such cases was that the pupil remained sensitive to light, which indicated that the break in the conduction of the visual impressions must be situated between the region of the corpora quadrigemina and that part of the brain that receives the visual impressions. Von Graefe further mentioned, as the result of observation, that if, in cases of sudden blindness, the pupil remained sensitive to light, recovery of sight might be expected. The prognosis, however, is not necessarily bad, when, in cases of sudden blindness, the pupil is immobile, because transitory affections of the optic nerves or of the corpora quadrigemina do occur; but in such cases the prognosis should be guarded, as in these structures a lasting affection interfering with their conducting power might exist without affecting the health otherwise.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 91 (extracted from *Berl. Klin. Wochenschr.*).

HYPERÆSTHESIA OF THE CILIARY MUSCLE. BY PROFESSOR ED. JUNGE,
ST PETERSBURG.

This affection is characterized by accession of pain whenever the power of accommodation is called into play by looking at a near object, the pain having its seat in the eye itself, and to a less degree in the parts around it. When the accommodation is completely rested, the eye is free from pain. The extent of accommodation is normal or slightly diminished. Atropine scarcely lessens the refractive power of the eye, and spectacles do not in the least relieve the complaint. This affection occurs most frequently in patients who are hypermetropic, but also in myopes, and even in persons whose accommodation is otherwise normal (emmetropic). Certain circumstances may predispose to the occurrence of this hyperæsthesia, but the disease may be viewed as essentially of a neuralgic character. Professor Junge relates a typical case—that of a lady, twenty-one years of age, who was shortsighted from childhood. On examination, the degree of myopia was found to be considerable ($\frac{1}{5}$), of vision good ($\frac{2}{3}$). With the ophthalmoscope staphyloma posticum was observed, and capillary injection of the optic nerve. There was no trace of insufficiency of the internal recti muscles. The pupils were of natural size. Under the use of atropine, the degree of myopia slightly diminished (to $\frac{1}{4}$), and the injection of the optic nerve likewise became lessened. The patient read best without spectacles, and could not endure them even for distant vision, on account of the pain and fatigue they induced. She was very anæmic, feeble, and nervous, very easily fatigued, and readily influenced by external circumstances. She also could not bear almost any medicine—quinine even in the smallest doses soon produced narcotic effects. Pain in the eye evinced itself for the first time when the system had been generally disordered, about a year previously; since which time the pain has frequently returned. It sometimes continued steadily for a certain time, becoming increased when the power of accommodation was exerted; at other times it only came on when the patient read or looked at near objects, and disappeared when the eye was rested. The pain was often of a burning character, and attended with sensitiveness to light and feeling of great fatigue. It sometimes was of a periodic character, returning daily at four or eight o'clock, and lasting for half an hour or an hour. This pain yielded to the administration of quinine. The hyperæsthesia was generally most marked when the patient's general debility was in any way increased. Under atropine the pain in the eye disappeared, but returned when its use was intermitted. But even when under the action of atropine the patient could not read without inducing pain in the eye, although the accommodation was thoroughly paralyzed. During these attacks the conjunctiva sometimes became injected, but this yielded to weak lotions of sulphate of zinc and nitrate of silver. Considerable relief was experienced from the use of the cold douche.

From a careful consideration of all the symptoms of the case, Professor Junge conclusively argues that hyperæsthesia of the ciliary muscle is the only satisfactory explanation of the nature of the affection.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 244.

DR J. SICHEL ON THE ABUSE OF ATROPINE AS A COLLYRIUM, AND THE
INJUDICIOUS EMPLOYMENT OF COLLYRIA IN GENERAL.

Dr Sichel is of opinion that, while the local application of the sulphate of atropine is of the greatest benefit when employed in suitable cases, this remedy is far too generally had recourse to in affections where its employment is neither necessary nor beneficial. He disapproves of the treatment of iritis by atropine collyria *alone*, without the simultaneous employment of antiphlogistic treatment. The treatment of iritis by atropine is founded on the erroneous assumption that dilatation of the pupil prevents the occurrence of iritis. Dr Sichel, on the contrary, maintains that he has observed iritis to occur when the pupil was thoroughly dilated. He performed some experiments on rabbits and other animals, with the view of testing this point. He dilated their pupils

thoroughly with atropine, and then, introducing a cataract-needle, lacerated the iris; and he found iritis to occur notwithstanding the mydriasis and the continued application of atropine. Still less does he consider atropine collyria beneficial in pustular and granular conjunctivitis or interstitial or vascular keratitis. Under this treatment the conjunctival and corneal inflammations are aggravated, while the dilatation of the pupil admits more light to the interior of the eye, and thus increases the irritation of the retina. Even when applied to the healthy eye, this alkaloid produces persistent conjunctival injection, or an external ophthalmia. In cases where the pure atropine produces this external irritation, Dr Sichel recommends glycerine to be added to the collyrium atrop. sulph. neut. gr. $\frac{1}{10}$ ths, aquæ distil. 5v., glycerine 3iiss.). The collyrium should be used at first only once a day, and after the application the eye should be bathed for five or six minutes with a sponge dipped in cold water.

Dr Sichel also refers to the poisonous effects sometimes produced by atropine collyria, which he attributes to the extensive use of atropine in eye-practice, and to the strong solutions employed. The collyrium should be applied with a fine camel-hair pencil to the inner surface of the lids, at the outer commissure. The lids are then to be closed, and the skin brushed over with the solution. Thus, only an infinitesimal portion of the collyrium reaches the puneta. As usually applied, the collyrium is dropped in at the inner commissure of the lids, and thus passes more readily through the tear-passages to the œsophagus, while the excess may flow over the cheeks and into the mouth if not dried up.—*Annales d'Oculistique*, tome lix. p. 155.

VESICULAR BODY (CYST) IN THE ANTERIOR CHAMBER—EXTRACTION.

Professor Businelli (Modena) records the following case:—A peasant, twenty-six years of age, applied for advice on account of an affection of his left eye. On examination a small round body was observed at the bottom of the anterior chamber of that eye. It was of the size of a butterfly's egg, and of a light yellow colour. In rapid movements of the eye from side to side it left its ordinary situation, which, however, it rapidly resumed. On examination with a lens, a very slender, transparent filament, springing from the external inferior pupillary margin of the iris, was observed, by which this body was suspended. This explained the pendulum-like movements it was observed to make when the direction of the eye was suddenly altered. The eye otherwise presented no morbid alterations that might serve to throw light on the origin of the above-described body. The conjunctiva was injected as in chronic catarrh, and the upper part of the cornea slightly opaque and traversed by several small vessels indicating chronic conjunctivitis, probably neglected, of a scrofulous nature. The iris was normal, the pupil central, round, and exhibiting no trace of former affection of the iris. Vision somewhat enfeebled on account of corneal opacity. The right eye was quite normal.

As careful examination failed to detect any spontaneous alteration in form in the vesicular body, Professor Businelli decided that it was not a cysticercus; neither, from the appearance of the eye, could it be the result of iritic inflammation, or due to the presence of a foreign body which had penetrated the coats of the eye. Professor Businelli removed the cyst through an incision in the cornea, and the patient left the hospital four days after with improved sight.

Under the microscope the cyst presented chiefly the appearance of atrophied iris tissue. M. Businelli is of opinion that the cyst was composed of the residue of the fetal pupillary membrane, and that the contents of the vesicle could only be aqueous humour which had penetrated by endosmosis.—*Annales d'Oculistique*, tome lx. p. 168.

CASE OF PEMPHIGUS OF THE CONJUNCTIVA.

The following is a condensed account of an example of this rare disease:—Herr Raquet, sixty-eight years of age, has suffered for twelve years from pemphi-

gus, which latterly confined itself to the face and the mucous membrane of the jaws. He underwent several courses of arsenic while under Professor Hardy for six years without material benefit. A year after the commencement of the skin-disease the eyes became injected and yielded a mucous secretion, but this disappeared under the use of sulphate of zinc wash. As the irritation of the conjunctiva returned he applied for further advice to a doctor in Paris, who probed the lachrymal canal, with the effect of increasing the conjunctival affection, after which, in the left eye, a fold of conjunctiva appeared to stretch from the inner angle towards the cornea. The mobility of the left eye became more and more restricted, ulceration of the cornea occurred, and, fifteen months after the probing of the canal, the lids had become almost entirely adherent to the globe. The cornea, which can only be partially seen through the narrow opening between the lids, is affected with xerosis, and vision is restricted to mere quantitative perception of light. The right eye is less affected, although here too the edges of the lids are adherent to the globe throughout their inner third. The conjunctiva is slightly hyperæmic, and exhibits a few papillary elevations and a smooth epithelial covering. The cornea is normal, and the sight excellent, only somewhat interfered with by the constant watering of the eye and a slight secretion of mucus. The patient states that periodically the eye becomes more inflamed, and then for two or three days is painful. Herr Raquet remained under observation several months, when it became evident that these exacerbations were connected with the breaking out of the pemphigus eruption on the face and mouth every three or four weeks. On two such occasions a gray vesicular elevation of the conjunctiva was observed, close to the oculo-palpebral fold. Twenty-four hours later the conjunctiva exhibited at this spot a slight erosion covered by a grayish secretion, and two days after appeared to be quite healed. After these attacks the motion of the eye appeared somewhat more limited. The treatment pursued consisted in a careful plucking of all the eyelashes, washing with weak lead lotion or milk, and moistening the lids very regularly with glycerine. Arsenic was also administered internally.

A similar case, recorded by Mr White Cooper, is also referred to.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 232.

CASE OF INVETERATE NYSTAGMUS CURED BY OPERATION. BY PROF. FANO.

The patient, a railway porter, aged 27, consulted Professor Fano on account of a peculiar affection of vision. He stated that he enjoyed excellent vision till about a month previously, when he was struck with the buffer of a waggon on the right shoulder. The shock was so violent as to produce dislocation of the arm, which he reduced himself. It was after this accident that he noticed that he could not read more than one line of a page without being obliged to stop, because of the letters becoming dim and the words appearing joined one to the other. The acuteness of sight is in no way impaired. When looking straight in front his eyes are affected with oscillating movements of two kinds—the one from side to side, the other rotatory on their antero-posterior axes. These two movements succeed each other rhythmically. The patient was first ordered an ointment, containing extract of valerian, to be applied to the forehead, and afterwards “*pillules de Méglin*,” without any improvement resulting.

Professor Fano had now recourse to division of the internal rectus muscle of the left eye. The division was made through the muscular tissue (not, as usual, division of the tendon). As the immediate result of the operation the left eye deviated outwards. To prevent too high a degree of divergent strabismus, the patient was directed to keep looking steadily to his right-hand side. Considerable improvement in the nystagmus resulted from the operation, and the left eye continued to squint outwards; so, nine days after the first operation, Professor Fano divided the tendon of the external rectus of the right eye. The result of this second operation was most satisfactory. In the course of two months all strabismus had disappeared, the movements of the eye were perfectly normal, there was still a slight rotatory oscillation, but while reading,

which he could do without difficulty, the eyes were perfectly steady.—*Annales d'Oculistique*, tome lx. p. 257 (extracted from *Union Médicale*, Sept. 1868, p. 398).

CASE OF PARALYSIS OF THE ABDUCENS AND TRIGEMINUS ON ONE SIDE.

Von Graefe exhibited a patient at a meeting of the Berlin Medical Society, who, as the result of cranial and intercranial lues, had paralysis of the abducens and trigeminus on one side. This paralysis had, in a few months, occasioned a pretty well-marked wasting of the left side of the face. The difference between the two sides of the face would have been more manifest were the patient not so spare, and if the *right* trigeminus were not, as appeared to be the case, also slightly affected. Von Graefe would ascribe the wasting of the face not so much to the atrophy of the muscles supplied by motor portion of the fifth, but rather to affection of the nutrient nerves, which are included in or connected with the trigeminus. In reference to the results obtained from experiments performed by Meissner and Schiff, Von Graefe remarked that cases of paralysis of the sensory portion of the trigeminus occurred in which the eye did not suffer; while, on the other hand, cases of ulceration of the cornea occurred, which, from the course they pursued, would lead him to consider them due to neuro-paralytic inflammation, in which the sensitiveness of the cornea was not lost.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 212 (extracted from *Berl. Klin. Wochenschr.*).

THE EYES OF THE STUDENTS AT BRESLAU. BY DR HERMANN COHN.

Dr Cohn desired to examine the eyes of all the students attending the Breslau University during the winter session 1866-67, but, of the 964 students, only 410 would submit themselves to examination. Of these, 134 (not $\frac{1}{3}$) were emmetropic (normal-sighted), 244 (nearly $\frac{2}{3}$) myopic, and 32 had other affections of the eye. In 59 of the myopic cases the disease was inherited, and the degree of myopia was much higher in these cases than where the myopia was acquired. The average degree of myopia was $\frac{1}{14}$. Where the myopia was inherited from the father the degree was $\frac{1}{12.5}$, from the mother $\frac{1}{9.2}$, and from both parents $\frac{1}{6.5}$.

A larger proportion of myopes came from schools where the class-rooms were dark, and the degree of myopia was higher. Staphyloma posticum was present in 46 per cent. of all the students. In several cases of marked myopia (as high as $\frac{1}{2}$) no staphyloma posticum was observed.

Of the 244 myopes, 174 wore glasses. (From affection three normal-sighted students used glasses.) Of these 55 used lenses which exactly neutralized the myopia, 85 used lenses that diminished the degree of myopia, while in 34 cases the lenses were too strong, and more than neutralized the myopia. In one-half of the cases, weaker lenses had been previously employed.

Only 15 students had manifest hyperopia. The degree varied from $\frac{1}{10}$ to $\frac{1}{4}$.

Dr Cohn directs attention to the enormous proportion of myopes, and considers that the prevalence of this affection may be best counteracted by correct school hygiene.—*Zehender's Monatsblätter für Augenheilk.*, 1868, p. 49.

MR HULKE ON NEURITIS OPTICA.

Thirty-nine cases of this affection are narrated, which are classified into four groups:—1. Cases where the neuritis, etc., resulted directly from an external injury; 2. Cases where the neuritis, etc., was consecutive to an intracranial disorder; 3. Cases of neuritis, etc., accompanying a dyscrasia, whether due to the entrance into the body from without of a specific *materies morbi*, e.g., syphilis and diphtheria, or to the generation of morbid conditions in the body, such as constitute uræmia, chlorosis, rheumatism, spænæmia; 4. Miscellaneous cases not referable to any of the foregoing groups.

Mr Hulke refers to the mistaken idea that formerly prevailed, that pain and

sensitiveness to light are necessary symptoms of retinitis, pointing out that instead of hyperæsthesia retinæ there is blunted sensitiveness, enabling the patients to bear bright illumination of the retina with the ophthalmoscopic mirror without distress. Objects appear to the patient as if seen through a mist, and this when the ocular media are so transparent that the nerve and retina can be accurately discerned. Where the visual acuity returns, Mr Hulke would ascribe the previous impairment of sight to the arrest of the incident light in the hazy inner strata of the retina, and to molecular disturbances in the elementary nerve-tissues, disordering their functions. In other words, the lessened sensibility of the retina is due to opacity of the inner layers, whereby the incident light is barred out from the rods and cones; to disorder or suspension of the influences, whatever these may be, which the inner granules and the nerve-cells of the ganglionic stratum exert on the molecular changes transmitted through them from the rods and cones; and to diminished or lost conductiveness of the internuncial nervous fibres. The essential ophthalmoscopic sign of inflammation of the optic nerve and retina is opaque swelling, accompanied with vascular turgescence. The different forms of neuritis, etc., are distinguished by differences in the amount and colour of the opacity, the degree and kind of the swelling, and extent of vascular turgor; by the predominance of some of these phenomena, and the super-addition of others (extravasations of blood, etc.); and lastly, by the way in which these marks are combined and grouped.—*Roy. Lond. Ophthalm. Hosp. Reports*, vol. vi. part 2, p. 89.

CASE OF EPILEPTIFORM AMAUROSIS. BY DR J. HUGHLINGS-JACKSON.

Dr Jackson has substituted the term epileptiform amaurosis for that of epilepsy of the retinæ, which he previously applied to cases where temporary disturbances of vision occurred. The change was caused by an uncertainty whether the retina is the part of the nervous system at fault. Dr Jackson has remarked that, in cases of convulsion beginning unilaterally, temporary failure of sight is sometimes a complication.—an association of symptoms that has its permanent counterpart in amaurosis from double optic neuritis and hemiplegia. A possible explanation of the connexion of the two symptoms may exist in the nature of the arterial supply to the optic nerves, corpus striatum, and hemisphere. He has noticed and describes similar temporary affections of smell and hearing. The case narrated is interesting, because the failure of sight occurred in the place, so to speak, of seizures which most would admit to be "epileptic" or "epileptiform."

The patient, a man twenty-three years of age, suddenly lost consciousness in a theatre six years ago, and was told that he struggled. Except that next day he was sore, he could tell nothing more of the fit. Several other attacks occurred three years after the first, in one of which the tongue was bitten. About two years ago, he had attacks of loss of sight. In the course of over twelve months he had four or five. When they occurred, objects appeared *gradually* to become more and more indistinct, until he could scarcely see anything. It would seem to reach a point, and then return again. It was like a film; there were no sparks, flashes, or colours. No giddiness accompanied the sensation, but headache followed it for an hour, or several hours. There was no trace of loss of consciousness. He felt sick when the attack was on, but never vomited. It was difficult to know how long the failure lasted. He thought about a minute. For the last year he has had seizures of another sort, in which he has the feeling of "half stuper," and "half recollection of a dream coming over him." He is told that he turns pale; he never falls; the attacks last about a minute. He seems to get into a perspiration, and feels hot. As it leaves him, it gives him a twinge in the bowels, as if he must go to the closet immediately.—*Roy. Lond. Ophth. Hosp. Reports*, vol. vi. part 2, p. 131.

CLINICAL MEDICINE.

ICTERUS.

PROFESSOR SKODA says, in a first attack of icterus, when the individual is otherwise well, and has never had anything similar, it is difficult to determine its cause (*Allgem. Wiener Med. Zeitung*, No. 32, 1868).

We generally assume that there is a catarrhal tumefaction of the biliary ducts, but this is not positive, because one affected with gall-stones must also have a first attack of icterus at some time.

The local suffering when gall-stones are present is often intense; but in catarrhal disease of the biliary ducts, the duodenum, and stomach, there is no cause for intense pain, and it is not particularly severe; the patient has such symptoms as an intense catarrh usually produces. When the icterus depends upon gall-stones, colic is usually an attendant symptom; we have vehement pain at the hypochondrium, which continues for some time, and then the jaundice appears. Such an initial stage points to the existence of gall-stones; but when we first have a febrile movement, which may be said to be of catarrhal origin, rigors, a feeling of general discomfort, and the appearance of the yellow colour without pain, we may regard it as a case of catarrhal icterus. When a person is attacked for the first time, observe his age; permanent obstructions may, indeed, occur at any age, but are much more frequent in advanced years. In the case of a first attack in a young person, the probability is very great that it is not caused by gall-stones, tumour, stricture, or impermeability of the biliary ducts. We know it well as a disease which often follows a catarrhal affection of the duodenum and biliary ducts. This diagnosis may be made with more certainty if the disease began with symptoms pointing to duodenal catarrh.

The patient loses appetite, fevers easily, has chilliness, perhaps night sweats, nausea, headache, languor, and depression of spirits. These symptoms last from a few hours to many days, in some instances, and then icterus suddenly makes its appearance. Under these circumstances our diagnosis is catarrh of the stomach, or duodenum.

In the first attacks of older persons, the probability of catarrh is diminished; and we have, possibly, an obstruction of the ductus choledochus, perhaps from tumour or gall-stones; though, of course, it is also possible to trace the disease to a gastric catarrh in old persons.

But in order to confirm the latter diagnosis, the initial movement must have been just as described for catarrhal icterus. Cases of icterus also occur in which the patient has had no prodromes of anorexia, pain, or fever. In these it is very improbable that catarrh of the duodenum and biliary ducts causes the disease; but it is probable that we have another, and a permanent, obstruction—occlusion of the biliary ducts.

Of course we cannot make our diagnosis with entire certainty, but it is well to mention the possibility of such a case not getting well again, or only slowly diminishing with the reduction of the biliary colouring matter in the blood.

Again, a case may occur in an aged person, attended by severe attacks of pain in the right hypochondriac region, nausea, emesis, perhaps spasms of superior or inferior extremities.

We would risk much in pronouncing this a catarrhal attack, and it is much more likely that we have a permanent obstruction; perhaps the pain is dependent upon strong tension of the ductus choledochus and hepaticus, or perhaps it is occasioned by the process of stagnation ("stauung").

Should we have carcinoma before us it is quite likely that catarrhal icterus may arise from the resultant irritation. When pain occurs during the commencement of icterus, it is probable that the jaundice does not arise from catarrh; but this may occur secondarily.

When icterus occurs for the second time, we must carefully observe if the individual may possibly have a permanent obstruction or not.

When jaundice occurs repeatedly in very young individuals, we have difficulty in deciding that gall-stones are the cause; but we may say, This individual frequently suffers catarrhal disease of the duodenum, ductus choledochus, and hepaticus; the icterus being recurrent, the diseased condition must return at stated intervals.

As soon as the age is somewhat advanced, however, a frequent recurrence of icterus will justify the conclusion that we have to deal with a permanent obstruction; and we have no doubt on the subject if intense pain is an accompaniment. If the icterus last very long—months, for example—we surely have permanent obstruction, either from gall-stones or neoplasmata.

Catarrhal disease of the stomach, bowels, or biliary ducts, does not, as a rule, last so long; indeed a return of the flow of bile shows itself during the continuation of catarrhal disease. A long-continued icterus also shows some peculiarities in the coloration of the skin; in some cases it becomes somewhat greenish, in some even blackish or brownish, and when this happens the probabilities are that gall-stones or neoplasmata are present.

DISEASES OF WOMEN AND CHILDREN.

FOOD FOR INFANTS.

In the *Transactions of the Medical Society of the State of Pennsylvania* for 1868, is published an essay on the above subject, by Dr Hiram Corson, of Montgomery County, in this State, which contains a great deal that is worthy of thought. We can find room only for the following extracts:—

During the last few years I have noticed that all our young men, graduates of the Medical Schools of Philadelphia, who come to practise in the country, and even those whom I have met who practise in cities, invariably give the same advice to the mothers who consult them in relation to the proper mode of feeding children to be raised by hand. They all direct them to give one-third milk and two-thirds water. And they give the reason for adding the water, viz., "The whole milk is too strong." Now, where do they get this knowledge? Has it come down from the authors already named to the present teachers, and do they so instruct their pupils? That is the rational conclusion. It appears, then, that from the time of Burns, and probably from a much more remote period, this opinion, that cow's milk is too strong to be used without free dilution, has been handed down by writers and teachers with scarcely a doubt of its correctness. If we have made any progress in all this time, it has been not to lessen the dilution, but to increase it from one-half to two-thirds water; and with this the great body of the profession is satisfied; and yet in the very face of this treatment stands the appalling fact, that from "forty to eighty per cent.," "seven out of every eight" of the little creatures perish within a few months after their birth.

During a long and busy practice I have been enabled, I hope, to arrive at a better mode of feeding infants deprived of the mother's nourishment; and for the benefit of those who are just entering upon the duties of our profession, and who will be called upon for advice in this matter, I desire briefly to record my observations and experience.

Thirty-two years ago, it became necessary to have my own child reared by hand, and I then discovered how ignorant I had been in relation to the *quantity of food* necessary for an infant, and was also enabled to observe the effects of an insufficient amount of food. Subsequent observations through many years have convinced me that there is not more than one woman in five, and perhaps not more than one in ten, who knows what amount of milk a child should have. Nor is there one physician in very many who can tell the mother or nurse what quantity it would need in twenty-four hours. I have repeatedly asked mothers and nurses and physicians, and it has been rarely that they have even approximated the truth. And this, because their attention had never been specially drawn to it. One would say a teacupful; another, not quite so much;

a third, rather more; a fourth, half a pint; and some, even as high as a pint, though they rarely named so much. And then, on being asked if they put water with the milk, they invariably replied, one-half water, or two-thirds water and one-third milk. Now, scarcely any child of one month will be satisfied with a pint daily; many will take a quart; the average is between them. But I do not mean that to this quantity twice as much water should be added, thus making nearly three quarts of fluid; for no child could take so much in twenty-four hours. Suppose, then, that a child can only take three half-pints of fluid into its stomach in a day, and two half-pints of it are water, it will then only get eight ounces of milk, when it needs twenty-four, or thirty-two ounces daily.

I feel quite certain that it is almost as easy to raise children by hand, if they have an abundant supply of good undiluted cow's milk, as it is by the breast. But the bottle should always be used instead of the spoon. My plan is to direct as much milk as the child can take, and as often as it wants it; but always of the temperature nearly of the mother's milk. In winter-time, or when milk is kept in a deep cave, or in a spring-house, I direct that as much boiling water be added to it as will bring it to that temperature. It takes but very little water, and is more convenient than heating it over the fire. To a pint of cool milk two tablespoonfuls of boiling water should be added, the whole then well sweetened. A healthy child of one month will take that much twice in the twenty-four hours. Some children at one month, or between one and two months, will take more than a quart daily, and a few can scarcely take so much. If, then, you are called to such cases as I have described, or to those milder cases where the child is fed half enough, or even a little more than that, place no reliance on the word of the nurse or mother, "that she feeds it plenty, or that it will not suck or eat, or cannot keep it down." I have frequently seen a mother let the hungry little creature tug and pull at her flaccid, milkless breast, without being aware that the child got nothing from it; and yet she thought "it was getting suck." In those cases hold back the medicine for a few days and try the milk. Those children who have been nursed and fed by the spoon will sometimes wholly refuse to take the bottle in lieu of the breast, and the mother takes it for evidence that they do not like the cow's milk, and will therefore attempt to raise them on some of the many farinaceous articles recommended, and in this she will be likely to fail. A little perseverance will generally induce them to take the bottle; and when once used to it, so that they can steady it in their own hands, they will rarely take too much.

I sincerely hope that our graduates hereafter will not go forth to practise, believing that the proper substitute for the mother's milk is a *mixture of two-thirds water and one-third cow's milk*. Rather let them be instructed that the higher the organization of the animal, the more abundant will be the nutritive constituents of the milk; and as man is at the head of the animal creation, human milk is more highly organized than that of any other animal. If, then, you wish to use any other milk as a substitute for the mother's, instead of diluting it with water, it would seem to be more appropriate to add to it some nutritive substance.

Baron Liebig's soup is probably very good, for, to five ounces of good milk he adds half an ounce of wheaten flour, half an ounce of malt flour, and seven grains and a quarter of cream of tartar, dissolved in one ounce of water. This is to be put on a gentle fire, and when it begins to thicken it is removed from the fire, stirred for five minutes, heated and stirred again until it becomes quite fluid, and finally made to boil. Separate the bran by a sieve, and it is fit to use. But how inconvenient for the poor to procure those ingredients and prepare them for the child every time that it needs food! Where milk cannot be procured, farinaceous substances may be used; but milk is better and more convenient.

I feel that some physicians who practise among the higher classes of society will regard these observations as having no reference to *their* patients, but refer

wholly to the neglected children of the poor. It would be fortunate if it were so; but who has not seen the poor, little, emaciated child of rich parents dragged about in its little coach by the nurse, or lying on her lap on a cushion, as the large carriage rolled along to give it an airing, by direction of the physician, whose very precise directions had been to feed it every four hours, two-thirds water and one-third milk? Day after day, week after week, has he not visited and prescribed (not for the starvation, but, to improve its nutrition, to relieve its colics, to correct its sourness of stomach, to regulate its bowels, or, to sum it all up in one common phrase, "to build it up?" Did he succeed? No. Under the impression that the child's stomach was weak, not able to take much food, the quantity of food was diminished, a little lime-water, mint-water, or some other "corrective" added, and the little starving sufferer, never ceasing its low and plaintive moan, gradually passed away for ever. This is starvation in the midst of plenty—starvation by prescription. There is little difficulty in raising children by hand, if they are allowed a full supply of good milk. A great many struggle along on even half the proper quantity. But they are weak, thin, and of small growth. Children who are fed on the water-and-milk mixture are sometimes saved by a habit which prevails among the poor, of giving it, while the mother is eating, small bits of bread or biscuit soaked in coffee, or with molasses or sugar on it. Thus, very soon, the little thing becomes clamorous for it, and the mother, in order to keep it quiet, will soon give it quite a slice of bread, or a small biscuit to suck at. Children of a few months will sometimes thus be saved.

How common it is to hear a mother say, "My child is getting very hearty now; but until it was nearly a year old it was very puny; I thought I would lose it." It was puny for want of food; it was starved on water and milk; but, when it got old enough "to sit up at the table, and get a little of anything," it began to improve; and yet the mother did not perceive the cause of the change.

ON THE USE OF PEPSIN IN THE DIARRHŒA OF INFANTS.

DR JAMES S. HAWLEY, of Green Point, Long Island, New York, in a communication to the *Buffalo Medical and Surgical Journal*, August 1868, calls attention to the use of pepsin in the diarrhœa of infants. He says:—

Premising, that the great predisposing cause of infantile diarrhœa is the state of evolution which the digestive system and its dependencies are undergoing during the period of dentition, the question of therapeutics becomes one of comparative simplicity, and the evident duty of the physician is to allay that irritation of the organs which is exhibited in vomiting and purging, first, by the removal of all extraneous sources of disturbance, such as food, improper in quantity or quality, by protecting the skin from too sudden and frequent changes of temperature; secondly, by sedatives, to subdue the excitement which the foregoing causes may have induced, and which, in the enfeebled condition produced by the transition state, are self-propagating; and, lastly, to impart to the struggling and overwhelmed digestive apparatus that assistance which will enable it to convert food from the character of a foreign, and therefore irritant, material, into nutriment which will reinvigorate the natural forces and enable them to accomplish successfully the great and necessary evolution through which they are passing.

As sedatives to the over-excited mucous membrane and glandular system of the stomach and bowels, the preparations of opium and the salts of bismuth stand pre-eminent. When irritation, without pain, exists, bismuth most promptly and satisfactorily allays it; but when accompanied with pain, the addition of a minute portion of opium becomes a necessary complement to its effectiveness.

We have now briefly noticed, in outline, the first two conditions of treatment, viz., the removal of external causes of irritation, and the allaying of the morbid excitement which has sprung from their agency; and it may be asked if the natural functions will not now resume their offices, and the health of the

patient be restored. Doubtless such would be the case, did not the system labour under the combined effects of the transition state of dentition and the impairment of strength due to the morbid causes above enumerated, and for which the correctives have been proposed. But the circle of remedies is not yet complete. By the administration of pepsin we at once convert the ingesta into nutriment. They not only cease to be irritants to the digestive organs, but are absorbed into the circulation, and become sources of power instead of weakness.

Now, we have fulfilled all the indications: first, to remove all sources of irritation from the quantity or quality of the ingesta, or change of temperature; secondly, allaying irritation by sedatives; thirdly, artificial digestion by the administration of pepsin. This simple but effective treatment is not new, but has more than once been presented to the profession for its approval.

EXTRAORDINARY VITALITY OF A NEW-BORN INFANT.

THE following case reported to the *Chicago Medical Journal*, October 1, 1868, by Dr James T. Newman, illustrates the extraordinary vitality of the newly-born. August 14, he was called to a girl,—whose shame the friends were trying to conceal by performing the offices connected with childbirth themselves,—on account of uterine hæmorrhage which alarmed them; and, had they not despaired of her life, none but the family would ever have known what the matter was. The child under consideration was born at eight in the morning, and was quietly wrapped up in an old blanket and put out of sight. I was told that it was still-born. I do not know why I requested to see it, but suffice it to say that the child was shown me, and there was something in its face told me that it was not dead; but I said nothing. The next morning I had occasion to use the stethoscope on an old lady living in the same locality. I called in to see my patient. After finding her doing well, I asked to see the child, and was told that it was in the coffin. I still looked as if I would like to see it, and the mother, noticing my countenance, raised the lid. I took the stethoscope and placed it over the region of the heart, and, to my great astonishment, I could distinctly hear the sound of the heart. I took the child out of the coffin, used Marshall Hall's method, and in the course of thirty minutes the child commenced breathing; the pulse was natural; it cried, and took the breast eagerly. It is a fine-looking boy to-day, and, for aught I know, bids fair to live threescore and ten years. Since seeing this very remarkable case, there is no doubt in my mind that many children are consigned to the grave without an effort to induce respiration.

EXTRAORDINARY POWER OF ENDURANCE IN A PARTURIENT WOMAN.

DR H. D. BALLARD, of Finley, Ohio, communicates the following remarkable case to the *Medical and Surgical Reporter*, Philadelphia, June 13, 1868:—

On the 1st of May 1868, I was called to make a post-mortem examination upon the body of an infant found in the vault of a privy, which elicited the following facts:—

Miss B., æt. 18 years, was delivered of a child at full term in a room adjoining that occupied by the family, with so much secrecy, and so little disturbance, as not to alarm or excite the suspicion of any member of the family. She had managed the whole matter, taken care of the secundines, hæmorrhage, and all, with such "neatness and despatch," that no suspicion was excited, till the child was discovered the following day in the vault. She must have left her room, carried the child about two hundred yards, deposited it in the vault of the privy, returned to her room, prepared herself, and appeared at the breakfast table in the morning, and as usual partook of a hearty meal. Afterwards she walked half a mile to her school, taught all day, returned to her boarding-house in the evening with no appearance of having suffered in the least. On the day following she accompanied the father of the child to his home, a distance of twelve miles, with no serious results then, and has ever since that

time been well. I will also add, that she was married on the 7th of May to the father of the child, just seven days after her delivery.

Under any ordinary circumstances, so much exposure and fatigue, following such a shock to the system as is produced by childbirth, would have been followed by serious consequences. Is it not a fact, that a determined spirit and a strong *will* possesses a great conservative power, many times preventing disease? For surely, under ordinary circumstances, we have looked for terrible results to follow such exposure.

THE USE OF REMEDIES DURING MENSTRUATION.

In a work lately published at Paris by M. Raciborski, the author endeavours to show that the prejudicial effects of remedies used during menstruation have no existence. He considers that our acquaintance with the physiology of this function should destroy a prejudice existing both in and out of the profession. M. Raciborski has prescribed emetics and purgatives during the catamenia, and even venesection, without in the least disturbing menstruation. A great point, according to the author, is to explain to the patient that no ill consequences will result from therapeutical interference during the catamenia, as her apprehensions might otherwise prove uncomfortable. Of course, no remedies should be used except they be clearly indicated.

ICE TO THE SPINE IN MENORRHAGIA.

DR WILLIAM C. CROOKS, of Philadelphia, in a communication to the *Medical and Surgical Reporter*, August 22, 1868, gives his experience in the application of ice to the spine in several cases of menorrhagia. We quote three cases.

Mrs S., *at.* 35 years, a native of Ireland; no children; no miscarriages; had for the past eight years been liable to attacks of menorrhagia; suffered greatly at times, for a number of years, with uterine disease, on account of which she had been under treatment by different physicians, and lately operated on for partial occlusion of os. This occlusion was attributed to be the result of the preceding treatment. On April 27, 1866, menorrhagia returned, the flow very much increased in quantity. Astringent remedies were employed, both general and local, but gave only temporary relief. On May 5, the first application of ice was made to the spine, and directed to be retained thereto for two hours. In half an hour after the application was made, a sleep of an hour's duration was produced. The preparations of cinchona and iron were given internally. On the 6th, pain was greatly relieved, and the flow diminished to not more than two ounces in the twenty-four hours. The ice was reapplied as before. On the 7th, pain diminished still more, hæmorrhage entirely checked, and did not again recur. The debility was great, and the preparations of cinchona and iron were continued. Beef-extract and a good nourishing diet were ordered. The patient, under this tonic treatment, soon regained her usual strength.

A young woman, *at.* 19, large, heavily built, and plethoric. Menstruated at 15; married two years; no children. One miscarriage. This accident happened three months previously. Gestation had progressed naturally until this accident, which happened about the third month, discharged the product of conception. Had always menstruated regularly up to the time of conception. After this accident, for the first time she had excessive menstruation.

On the 10th of September I was summoned to see her. She had been flooding for twelve hours, during which time she had lost a pint of blood, as near as could be calculated. Bowels constipated and pain severe. At 8 P.M. ice was applied to the spine, and in twenty minutes sleep was produced, which lasted two hours. A large dose of castor-oil was given to overcome the constipated condition of the bowels.

11th.—The discharge reduced to its normal quantity. Ice not reapplied. Anti-phlogistic measures resorted to.

20th.—No recurrence of the excessive menstruation. Health regained. Medicine discontinued.

By using precautionary measures on the approach of each menstrual period, she has not as yet suffered from any return. The precautions I directed in this case are those which the known liability of any woman to menorrhagia should lead her to adopt with the return of each menstrual epoch,—strict observance of the horizontal position, from the commencement of the discharge until it ceases, with care that the bowels are not constipated.

On 24th May Miss R., *æt.* 30, despatched a messenger for me in great haste. On my arrival, was informed that three days previously Miss R. had, on coming down stairs, received a trivial injury by falling down three or four steps. No inconvenience whatever had been experienced, or pain suffered from the fall until the morning of the 24th, when the return of her menses was accompanied by an alarming hæmorrhage.

In this case no treatment was indicated except that which would arrest the present hæmorrhage. Ice was applied to the lower part of the spine, and retained thereto for two hours. The application was renewed three different times during the succeeding thirty-eight hours, at the expiration of which hæmorrhage was under complete control.

28th.—No recurrence of hæmorrhage; a little prostration from the loss of blood was all that remained, for which ferrated elixir of calisaya in dessert-spoonful doses was given three times a day.

The ice is to be broken up into small pieces about the size of an English walnut, and then put into the Chapman's spinal ice-bag (or in lieu thereof the common bladder may be used), the pockets of which are to be not more than two-thirds full, when you will securely tighten them by the attached screws, if the Chapman's bag be used, and if the bladder, a cord will answer the purpose.

Having the ice prepared as above, it is applied to the lower portion of the spine (in the region of the lower dorsal and lumbar vertebræ), and retained thereto from half an hour to two hours, as the exigency of the case may require, and renewed at intervals varying from six to twelve hours, until the desired effect is produced.

Special attention to the preparing of the ice should be given, for obvious reasons. The patient, if at all possible, must be placed on her back, and have the ice-bag applied to the spine underneath her; now, if the ice is not prepared correctly, or the bag and bladder more than two-thirds full, it will in the one case cause an irregularity, and in the other a globular mass which cannot be rightly adjusted to the spine.

SURGERY.

CASE OF MEDULLARY TUMOUR OF THE ARM; AMPUTATION OF THE LIMB AND SCAPULA; DEATH. BY KENNETH M'LEOD, A.M., M.D., L.R.C.S.E., ASSISTANT-SURGEON, BENGAL MEDICAL SERVICE.

ON Saturday, 29th June 1867, a boy, about two years old, was brought to the Jessore Charitable Dispensary with an enormous tumour of the right arm, extending from the elbow to the infra-spinous fossa of the scapula. The child's parents stated that the tumour had existed at birth, and was originally small, but that it had increased much and rapidly of late, and that the child had strong fever, and was falling off in health. The tumour measured 17 inches in circumference, and was tense and fluctuating; the skin covering it was smooth and distended, and the superficial veins much enlarged. The patient was in a high fever, and though not much emaciated, was wan and feeble-looking.

An exploratory puncture was made with a small trocar, but only a few drops of straw-coloured fluid issued. After a careful examination I found that the tumour was so intimately connected with the muscles in the infra-spinous fossa,

that any operation for its removal must include the scapula. Believing that the fever was symptomatic, finding the other organs healthy, and feeling that amputation gave the only chance of saving the child's life, I proposed it to the parents, and obtained their consent. The operation was performed on the 30th June. The patient having been put under chloroform, I took a semi-lunar flap from the front of the armpit and shoulder, and cut down at once through the pectoralis major and minor on the axillary vessels. These were secured immediately with a ligature; but the vein discharging copiously, and a large branch (acromial) quite close to the ligature on the artery bleeding actively, I passed a needle through the skin under the vessels, and thrust the point outwards and upwards so as to rest on the clavicle. This expedient *completely and at once* stopped all bleeding. The remaining steps of the operation were rapidly performed. The clavicle was cut through, and the scapula drawn out from the body; the axillary glands, which were enlarged, were swept away. The serratus magnus were severed close to its scapular attachment; the trapezius, omo-hyoid, and levator anguli scapulae were divided at their insertions; the rhomboids were next cut, and the latissimus dorsi divided near its insertion. The whole arm and scapula were then removed. The supra-scapular artery was the only one requiring ligature, and the semi-lunar flap fitted accurately into the concavity of the other flap. The whole wound was sutured, and looked exceedingly neat. The child recovered from the chloroform, began to move about, and drank some milk. I gave directions for its management, and left it in hopes that all immediate danger was past. I was greatly mortified when I heard that, soon after I had left the child, it grew pale, showed signs of oppressed respiration, and soon died. Death could not have been caused by loss of blood, for the amount lost was comparatively small; so that I am forced to the conclusion that the shock of the operation, coupled with its previous condition, was too much for the child.

I made two deep incisions through the tumour, one on its radial, the other on its ulnar side. The former laid open a number of cells or cavities, lying in firm white tissue. These cavities communicated with each other, and contained some soft, friable, curd-like matter, and a straw-coloured fluid, which coagulated on emission. In some of them a colloid substance was apparent. The ulnar incision showed a soft elastic homogeneous mass, with a tendency to the formation of cysts and softening. The diseased mass was nowhere bounded by any cyst, but was gradually lost in the healthy parts. The bone was not involved, but all the muscles of the arm and infra-spinous fossa were more or less diseased. All the morbid texture had been removed by the amputation.

No post-mortem of the body was obtained. The tumour was forwarded to the Medical College Museum, and its microscopic appearances are thus described by Dr Colles, the officiating Curator, in a letter to me:—

"The 'soft, friable, curdy matter' contains hardly a trace of stroma. It consists, besides a large quantity of fat globules and granules, of cells, some of which are oval or circular, with granular contents, and without nuclei. Others are polygonal, fusiform, or caudate, with well-marked nuclei, and (in many cases) nucleoli,—and, in short, possess all the characters of the so-called 'cancer-cell.' The firm white tissue of the tumour contains the same elements, entangled in the meshes of a remarkably dense and closely-woven stroma of white fibrous tissue."

Remarks.—I agree with Dr Colles in considering this tumour to be of a malignant nature; the absence of any definite capsule or boundary,—the implication of surrounding parts and tissues—the rapid growth and enormous size—the vascularity and tension of the skin—the semi-fluctuating feel of the mass, and, above all, the characteristic microscopic appearances, certainly bring it under the category of medullary growths.

The tumour presents, however, one remarkable peculiarity in the character of its stroma, which was very abundant, very dense, and well developed, and disposed in a trabecular or reticulate manner. Indeed, the interior of the

tumour resembled a large sponge with thick trabeculae and wide cells, which were filled with cancerous matter, pellucid, curdy, and serous. Its structure was almost erectile, the "cancer juice or serum" occupying the place of blood. I also observed that the dense trabecular stroma was very free of "cancer juice," and that the circumferential portion of the tumour, which was homogeneous, was softer and more juicy.

This well-marked trabecular structure has not been described as existing on such a large and marked scale by Paget in his admirable treatise on surgical pathology, but his description of a less developed structure of the same kind (p. 652, second edition) applies generally to this.

He also quotes Rokitsansky's views on the development of the stroma of cancers, and in a foot-note (p. 655) gives, without comment, the views of recent writers as to the probability that the trabecular stroma is derived by development from the connective tissue corpuscles of the original texture. It is evident from p. 901, that Paget inclines to this view, though at p. 613 he says that it is important to discriminate between fibrous tissue, "which is developed during the growth of the cancers, and that which is derived from the original fibrous tissue of the affected organ."

Without going further into this question, I think that the tumour under notice, as a congenital growth, which had undergone an extraordinary degree of development, favours the conclusion that this trabecular structure and arrangement is a decided, and perhaps essential, feature of medullary tumours, and that from the size of this growth, and the excess of the stroma, it did not consist merely of the connective tissue of the limb, but was part and parcel of the developing mass, originally developed, most probably, from the germinal tissues of the limb. What determined its original commencement, it is impossible to say; but whether it was an out-and-out error of development of the limb, or commenced after the tissues and organs had normally reached a certain point, it is certain, from the appearance of the parts, that tissues and organs which had been correctly formed, subsequently became a prey to this degenerate mode of nutrition.

Was the operation justifiable? is, I admit, a very open question. Paget says (p. 679):—"In general, I think, the answer must be affirmative, wherever the disease can be wholly removed, and the cachexia is not so manifest as to make it most probable that the operation will of itself prove fatal." This expresses tersely what most professional men think on the subject. The motive to undertake the very serious measure of removing the whole limb and scapula in this case was, however, somewhat different from that which generally determines us to operate in cases of medullary cancer. The question was not so much one of prolongation of life, or relief of painful symptoms, as this: Is it possible, by lopping off an excrescence, to remove a condition arresting a development, and certain to kill eventually, and to place a child in a position to attain adult life? The loss of the life, on the one hand, is not such a serious consideration; and the motive to operate, on the other, is a much stronger one than in the case of an adult, who has already attained to what renders life human, and has stronger interests in retaining it as long as possible. On these grounds I think that, even with the fatal issue of this case before me, I should be strongly inclined to act similarly in similar circumstances. It is a case of "neck or nothing," and while a glimmering of hope exists, it gives a reasonable ground of action. Experience of similar cases will in time finally determine the question: but meantime, in the absence of such, we are left to be guided by such considerations as I have adduced. Failure in one case does not dispose of the question, though it, *pro tanto*, throws a doubt on the propriety of the procedure, and perhaps a change in the method of operating, such as tying the subclavian or axillary high up previous to amputating, might, or may, incline the very delicate balance in favour of success. As to the operation itself, I find in Ferguson's Practical Surgery (4th edition) that the scapula has been removed on several occasions, under various circumstances, principally on account of mechanical injuries and gunshot wounds. Ferguson, with

characteristic sagacity and caution, remarks (p. 338)—“So far as the mere shock produced on the system by operations for removal of so large a portion of the frame is to be taken into account, the surgeon may be amply justified in resorting to their performance; but it behoves him to consider well the nature of the case before he proceeds to use the knife. The most analogous case to mine which I can find, is one in which Mr Syme amputated at the shoulder-joint for the removal of a large tumour of the humerus. In this case the axillary artery was tied as a preliminary measure. Perhaps it would have been better had I done so in this case, or resorted, before dividing the skin, to the expedient which I found of such service when the hæmorrhage became urgent.—*Reprinted from the Indian Medical Gazette*, September 1867.

[At p. 137 of our August number will be found a list of eleven operations, in which, for various causes, the entire upper extremity was removed. The present case is therefore the twelfth instance of such an operation, and as nine of these twelve terminated in recovery, the operation itself cannot but be regarded as one of the least fatal in surgery. But as of eleven cases (p. 140) in which the whole upper extremity had been torn off by machinery, *all* recovered, if we adopt the modern principle of deduction from numbers irrespective of modifying circumstances in the previous condition of the patient and the nature of his ailment, we would be led to the conclusion, that by far the safest way to amputate a limb is to wrench it off,—a conclusion not more absurd than that to which a similar mode of reasoning is conducting those who make use of it in other matters.—ED. *Edin. M. J.*]

ITCHING AND BURNING OF THE SKIN.

DR BACON employs with much satisfaction the following formula:—

R. Sapon mol., Oj.; spts. vin., f. ℥iv.; ol. juniper, ol. amygd., āā f. ℥j.; emuls. sassafras, f. ℥vi.

Juniper tar soap is employed, and highly recommended, for the same purpose as above.

Tinct. hamamelis virg.,—Pond's or Squeer's preparation recommended.

R. Ung. zinci carb., ℥iv.; acidi gallici, ℥j.; tinct. ferri chlor., gtt. j.

This combination finds much favour with some writers. Before applying, wash the part with bran or slippery elm water.

In skin diseases attended with discharge or itching, notice through the agency of a piece of litmus paper whether the discharge be acid or alkaline; if acid, lime-water and milk in equal parts will generally be found to furnish an immediate relief. If alkaline, any convenient neutralizing acid wash may be used.

CURE FOR ECZEMA.

DR MANKIEWICZ, of Berlin, cured his wife in from five to six weeks of an obstinate eczema by the application of Peruvian balsam morning and evening, diet, and regulation of the bowels. A slight burning sensation followed the applications, the itching ceased, and the crusts fell off. It is now three years since any eruption or itching have appeared.—*Weiner Med. Wochenschrift*, No. 82, 1868.

COMEDONES.

PROFESSOR HIEBRA recommends the following treatment when the above are very numerous (*Allgem. Wiener Med. Zeitung*, May, 1868).

Send your patient to the vapour-bath in the morning, and there have him washed with soda or potash soap; in the evening, wash affected parts with a lotion composed of—

R. Sulphur præcipitatum, ℥j.; æther. sulph., f. ℥ij.; alcohol rectificat., f. ℥ss.

For their mechanical removal use the nails, a watch-key, or, where practicable, dry cups; they may also be removed by suction with a small tube, open at both ends, and provided with a tight-fitting piston.

Part Fifth.

MEDICAL NEWS.

RELAPSING FEVER has been unknown in Scotland for more than twenty years; lately it has prevailed, and is, we believe, still prevailing, in London, having been imported thither from the Continent, as is supposed. It is a well-marked, highly contagious fever, and much interest has been felt as to the best means of checking it, and the probability of its spreading over the country, thereby producing much suffering and incidental poverty. No case of this form of fever has been known to have occurred in any of the large hospitals of Scotland in recent days. It is not believed to originate *de novo* except under certain circumstances, involving a combination of squalor and starvation; but, from its contagious character, it may be readily enough imported. Under these circumstances, it is somewhat startling to find recorded in the Registrar-General's report of the health of Scotland for the quarter ending 30th September, at p. 5—"Fever was also common . . . in some places, as at Mid-Caldor, assuming the relapsing type." All fevers may occasionally, though rarely, relapse; but there is no relapsing type of fever except that known as relapsing fever; it is, therefore, of considerable importance to know whether, in the absence of any special cause, such as famine, this fever has broken out simultaneously in London and in Scotland, or whether it has been imported into both countries, and if so, whence? From this fever having apparently affected only rural populations in Scotland, its source could be more readily traced here; and the Registrar-General could scarcely do a greater service to the country than by employing some of his staff to sift the truth of the statement he has made so public, and which at present seems only to rest upon the authority of the local registrars. The subject has been deservedly esteemed of so much importance that the Medical Officer of the Privy Council has issued a circular upon it, containing the following directions for the local authorities, which is here reproduced, some of them being equally instructive and applicable to local authorities in all parts of the kingdom:—

"1. The greatest personal predisposition to relapsing fever is given by states of poverty and privation; so much so, that the disease is often known by the name of famine-fever. Where destitution has not existed, or has been adequately relieved, relapsing fever is not likely to be epidemic.

"2. Relapsing fever is in a very high degree communicable from sick to healthy. The more confined the atmosphere in which sick and healthy are together, the more certain is the disease to be communicated.

"3. An attack of relapsing fever is greatly less dangerous to life than an attack of typhus. But where relapsing fever has attacked, and when all its acute symptoms are past, the sufferers remain for a while extremely weak, requiring that food and restoratives should be liberally supplied them; in default of which the feebleness left by the disease may be of indefinite duration. This is the more important, because, where relapsing fever is epidemic, typhus often accompanies or follows it; and persons whom the relapsing fever has weakened not unfrequently fall victims of typhus.

"4. Relapsing fever is eminently a disease which cannot safely be treated in the houses of the poor; for in them, crowded and ill-ventilated as they generally are, and with inmates often insufficiently nourished, there must be every likelihood that the infection will spread. It is essential that under such circumstances the sick should at once be removed from amid the healthy. Ample hospital accommodation is therefore an indispensable condition for limiting the extension of the disease.

"5. Of duties which have to be discharged by local authorities in the

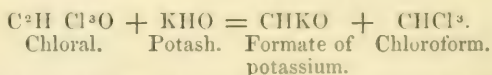
several parts of London in relation to the present subject-matter, some are duties of Poor-law relief, and others are duties of general sanitary administration; but, as the former are done under direction of the Poor-law Board, only the latter are here adverted to. At present (as in all times when epidemic disease is prevalent or threatening), it is particularly important that powers conferred by the Nuisances Removal and other general Sanitary Acts should be well exercised by those in whom they are vested. Very detailed district inspection is most necessary. Everything practicable should be done, especially in all poorer parts of each district, to promote cleanliness of and about dwellings. The washing and lime-whiting of uncleanly premises, especially of such as are densely occupied, should be pressed with all practicable despatch. It is essential that over-crowding should, as far as possible, be prevented, and proper ventilation be enforced; and in these respects common lodging-houses, and houses which are sublet in several small holdings, will require particular attention. Above all, the attention of nuisance authorities is invited to the powers conferred upon them by various sections of the Sanitary Act 1866, with reference to infectious disease; especially to the powers conferred for purposes of disinfection, and for the conveyance of sick persons, and for the separation of the sick from the healthy.

"6. The parts of London in which at present cases of relapsing fever are believed to be numerous are Whitechapel, Bethnal Green, and St Giles's.

"7. It is essential for the local authorities of London to know that at the present time the London fever hospital is quite or nearly full, and that, in the face of such requirements as the next fortnight will most probably develop, neither the London Fever Hospital, nor any of the general hospitals of London, will be able to give them any important assistance in relation to their cases of relapsing fever."

HYDRATE OF CHLORAL.—When dry chlorine is passed through perfectly pure alcohol, a substance is formed which has been named by Liebig chloral. This product absorbs moisture on exposure to moist air, and forms a crystalline hydrate, which is very soluble in water. It may also be viewed as trichlorotretted acetic acid, and is likewise formed by the action of chlorine upon starch.

Hydrate of chloral, when decomposed by soda, yields chloroform and formic acid thus—



It is supposed that when this hydrate of chloral is injected into the body, it is gradually decomposed in the alkaline fluid, and chloroform is produced. A solution made with an equal quantity of water has been used. The largest quantity yet given has been four grammes of the solution, equal to twenty-one grains of chloroform. Drowsiness comes on, and soon perfect stupor; the effect is said to be mild and gradual. This death-like stupor was prolonged, according to the strength of the dose, as far as eighteen hours. This novel and remarkable remedy is said to produce immediate and perfect anaesthesia and stupor when injected into the veins, but only calm and deep sleep when swallowed. Operations are said to be able to be performed without rousing the patient in the first case, but not in the latter. The stupor differs from that of chloroform in that reflex action is not destroyed; it may therefore turn out to be a safer agent if it prove to be equally effective. It is as yet scarcely to be obtained here, and costs about one shilling a dose; but it is largely advertised in the German periodicals, and will probably soon be plentiful.

THE MANAGERS OF THE INFIRMARY have unanimously elected Dr Pettigrew to the office of Pathologist, and they may be congratulated on having secured as one of their officers a gentleman of such eminence and promise. As

numerous changes have taken place both in the Medical and Surgical Departments, we may state for the information of our numerous readers who take an interest in the Royal Infirmary, that, among the more recent changes, Dr Grainger Stewart has been appointed Junior Physician, and Dr Claud Muirhead and Dr Thomas R. Fraser, Assistant Physicians; while Dr Sanders, late Senior Physician to the Infirmary, and now Professor of Pathology in the University, has a special medical ward allotted to himself, as have also each of the other Clinical Professors; while the Assistant Physicians are to take charge of the Fever House, in rotation, for periods of three months at a time. As regards the Surgical Department, we rejoice to state that though Mr Spence, Professor of Surgery, ceases to be Senior Surgeon, he is still to have wards, and is to continue to render important service to our Infirmary, which has had the benefit of his eminent skill for a great number of years. Mr Lister, the newly appointed Professor of Clinical Surgery, who returns to us from Glasgow with wide and increasing reputation, succeeds Mr Syme in his wards. Dr Joseph Bell and Dr John Duncan have been appointed Assistant Surgeons, Mr Annandale, the former Assistant Surgeon, having been promoted. It will be gratifying to our readers to know that though Mr Syme has ceased to have wards in the Royal Infirmary, he continues, as a Consulting Surgeon, in connexion with an institution on which he has shed so much lustre.

ROYAL MEDICAL SOCIETY OF EDINBURGH.—The hundred and thirty-second session of this Society was opened on Friday evening, 5th November, with an address by Dr Alexander Wood. There was a large attendance of members. A society so flourishing, and in some respects so unique, is worthy of a passing notice. Founded in the year 1737 by six students attending the University, for the purpose of discussing subjects of professional interest, it has acquired at this date an influence and a prestige hardly surpassed by any other in the kingdom. Numbering among its members some of the most distinguished living graduates of the University of Edinburgh,—Christison, Stokes, Ferguson, Carpenter, Sharpey, Muirhead, Simpson, Bennett, Murchison, etc.,—it has become classic from the lustre which surrounds the memories of such men as Oliver Goldsmith, Akenside, Gregorys, Monros, Bright, Allison, Goodsir, and a host of other revered names, all members of the Society. It is now, as it was at its foundation, a Students' Society, and in this it possesses singular advantages. With a library of 16,000 volumes, constantly receiving fresh addition, a reading-room and museum, where private studies may be pursued, and descriptive information brought to the test of practical observation, it affords to the student, by the weekly debates which occupy its attention, an opportunity of cultivating those talents for public address, which is so desirable, but which, apart from a society of this kind, it is impossible for the student of medicine to acquire; and, above all, it gives a stimulus to the acquisition of knowledge, beyond the beaten track of class-room reading, which will prevent, more than anything else, the student degenerating into the routine practitioner.—*Medical Press and Circular.*

THE LADIES are carrying everything before them in Edinburgh. At a full meeting of the Directors of the School of Arts—the Rev. Dr Gray in the chair—it was unanimously resolved to allow female students to attend the lectures and classes of the school.

The following regulations, in regard to their medical education, have been promulgated by the University Court:—

Extract from the minutes of the University Court of date 10th November 1869,—

“The University Court of the University of Edinburgh, considering that, on 2d July 1869, the Senatus Academicus of the University adopted a resolution that women should be admitted to the study of medicine in the University, in separate classes, confined entirely to women, on certain conditions contained in the said resolution; and further, considering that, having taken a view favour-

able to the said resolution, the University Court determined to proceed in the matter under the powers contained in section xii. 2 of the Universities (Scotland) Act, 21 and 22 Vict., cap. 83; and further, considering that the matter was therefore submitted to the General Council of the University, and that the General Council had the said matter under consideration at their meeting of 29th October last 1869, when a motion in favour of the proposal was adopted by a majority—

“Therefore the University Court now resolve as follows:—

“1. Women shall be admitted to the study of medicine in the University.

“2. The instruction of women for the profession of medicine shall be conducted in separate classes confined entirely to women.

“3. The professors of the Faculty of Medicine shall for this purpose be permitted to have separate classes for women.

“4. Women not intending to study medicine professionally may be admitted to such of these classes, or to such part of the courses of instruction given in such classes, as the University Court may from time to time think fit and approve.

“5. The fee for the full course of instruction in such classes shall be four guineas; but in the event of the number of students proposing to attend any such class being too small to provide a reasonable remuneration at that rate, it shall be in the power of the professor to make arrangements for a higher fee, subject to the usual sanction of the University Court.

“6. All women attending such classes shall be subject to all the regulations now, or at any future time, in force in the University as to the matriculation of students, their attendance on classes, examination, or otherwise.

“7. The above regulations shall take effect as from the commencement of session 1869–70.”

Extracted by J. CHRISTISON, W.S., *Secretary*.

Edinburgh, 12th November 1869.

Edinburgh, November 12, 1869.—I approve of the regulations contained in the foregoing extract minute, and sanction the same in terms of the Universities (Scotland) Act 1858, sec. xii. 2.

JOHN INGLIS, *Chancellor*.

UNIVERSITY OF EDINBURGH.—Sir Alexander Grant, Principal of the University of Edinburgh, delivered his opening address to the students on the 2d of November. As this was the first opportunity Sir Alexander has had of addressing the students in a body, there was a large attendance, and the Music Hall, in which the meeting took place, was quite crowded. Sir Alexander began by paying a graceful tribute to the memory of Sir David Brewster, his predecessor in the office of Principal. He then commented at some length on the Scotch Universities Act and its operation. The first great result of the Act was, he said, to give them a constitution and the power of self-government. The second great change was a change in the patronage of University appointments; but of that it must be said that, though a step in the right direction, it did not go far enough, and he suggested an enlargement of the curatorial body, as a prophylactic measure against the rising of any tide of ecclesiastical or personal feelings, before which it was at present always possible that scientific and educational considerations might be swept away in the choice for scientific and educational posts. A third important result of the Act was an increase of emoluments, and the provision of allowances for retiring professors. The Principal then mentioned certain things which were thought by some persons to be desirable for the University, though not introduced by the Act. One of these was the revival of a B.A. degree; and he was not sure that a well-devised plan with that object in view might not be made the hinge on which much good to the Universities would turn. He then enumerated some details of a scheme for reviving the B.A. degree, expressing himself in favour of greater liberty in the choice of subjects, and a more simple standard, the effect of which would be to encourage many students who

would otherwise have to stay out the time necessary for the lower degree. When the B.A. degree were once taken, he would have great faith in the effect of the supplementary scheme, which proposed to take the competition for honours out of the atmosphere of the class-room, in which it at present languished, and to transfer it to the arena of all Scotland. By adopting this they would set up for the first time a real University distinction for this country, a real blue-ribbon for Scottish intellectual youth, a distinction to be obtained before the eyes of the nation, and analogous, if not equal, to the wranglerships of Cambridge, and the first-classes of Oxford. He thus summarized the scheme of University policy which he proposed:—First, to give the University as much connexion as possible with the organization of public instruction in the country; second, to open as much as possible the curriculum of study to the free choice of students, so as to meet the wants and circumstances of all classes; third, by the introduction of public triposes and honours, to stimulate more profound attainments in the different and special branches of knowledge. Sir Alexander concluded by reviewing the chief events which had occurred in connexion with the University since he became Principal. He spoke approvingly of what had been done towards the promotion of the higher education of women.—*Scotsman*.

THE EXTRA-ACADEMICAL SCHOOL was opened on Tuesday the 2d November by Dr Argyll Robertson, who delivered an able introductory lecture, which will appear in our next number. The lecture was attended by the Presidents of the Royal College of Physicians and of the Royal College of Surgeons, and by a considerable number of the Fellows of both Colleges, besides a large body of students.

THE PROSPECTS OF THE MEDICAL SCHOOLS of Edinburgh for this session are better than usual, the number of students already entered being greater than the whole number registered at the commencement of last session, the increase in those matriculated for the first time at the University alone amounting to about forty to the present date (20th November).

THE ROYAL INFIRMARY.—A large and influential meeting of subscribers to the new Royal Infirmary was held in Edinburgh on the 19th ult.—the Lord Provost presiding—for the purpose of ascertaining whether the subscribers would agree to recommend the Acting Committee to concur with the Managers in an application to Parliament for the powers necessary to build the new Infirmary on the grounds of George Watson's Hospital. Application had been previously made by letter to all subscribers of £2 or upwards, whose addresses were known, with the following result:—

Circular letters issued, 3481, representing £70,200		1	9
	No.	Amount.	
Deduct—Returned as dead . . .	22	£1,597	0 0
„ not found . . .	49	453	1 1
	71	£2,050	1 1
Leaving 3410, representing £68,150	0	8	
	No.	Amount.	
Of which—Assenting . . .	1878	£43,804	2 6
Dissenting . . .	212	4,516	12 0
Neutral . . .	236	5,497	1 3
Answers returned . . .	2326	£53,817	15 9
No reply . . .	1084	14,332	4 11
	3410	£68,150	0 8

The large proportion of assents exhibited in this summary was fully homologated by the meeting, which agreed to the motion almost unanimously, one only being dissentient. The Royal Colleges of Physicians and Surgeons highly approve of this movement. It is understood that the University favours it; and the great body of contributors having thus shown that they desire it, it is to be hoped that the few who, from mistaken ideas, still disapprove, will withdraw their opposition, and thus permit the whole population to unite harmoniously, as their forefathers did, in erecting an hospital worthy of the metropolis of Scotland. (Since the above was written, certain steps have been taken by the dissentients, which give ground for expectation that their opposition will be withdrawn, and that the hope we have expressed will be realized.)

PUBLICATIONS RECEIVED.

- W. Morant Baker.—Kirkes's Handbook of Physiology. London, 1869.
 Dr Oluf L. Bang.—Haandbog i Therapien. Copenhagen, 1869.
 Gilbert W. Child.—Essays on Physiological Subjects. London, 1869.
 S. Currie, M.D., Inspector-General,—Medical History of the Abyssinian Expedition. Samuel Fenwick, M.D.,—The Student's Guide to Medical Diagnosis. London, 1869.
 Half-Yearly Compendium of Medical Science,—July 1869. Philadelphia, 1869.
 James Hutchison Stirling,—Protoplasm in relation to Professor Huxley's Essay on the Physical Basis of Life. Edinburgh, 1869.
 J. W. Johnston, M.D., and T. J. Call,—Descriptive Anatomy of the Horse and Domestic Animals. Edinburgh, 1870.
 William Odling, M.B.,—Outlines of Chemistry. London, 1870.
 J. A. Symonds, M.D.,—Address on Health. London, 1869.
 Wm. Paul Swain, F.R.C.S.,—Injuries and Diseases of the Knee-Joint. London, 1869.
 J. Thorburn, M.D.,—Vaccination. London, 1870.
 Richard V. Tuson, F.C.S.,—Veterinary Pharmacopœia. London, 1869.

PERIODICALS RECEIVED.

- American Journal of Insanity,—July.
 American Journal of the Medical Sciences,—July.
 American Journal of Obstetrics,—August.
 Annales d'Oculistique,—July to October.
 Archives of Ophthalmology and Otology,—Vol. I., No. 1.
 Berlin Klin. Wochenschrift,—Nos. 31 to 47.
 Births, Deaths, and Marriages, Monthly Returns of,—July to October; and Quarterly Returns,—June, September.
 British and Foreign Medico-Chirurgical Review,—October.
 British Medical Journal,—July 31 to Nov. 20.
 Bulletin Général de Thérapeutique,—August to November.
 Dublin Quarterly Journal of Medical Science,—August, November.
 Gazette des Hôpitaux,—Nos. 86 to 135.
 Gazette Hebdomadaire de Médecine, etc.,—Nos. 31 to 47.
 Gazette Médicale de Paris,—Nos. 31 to 47.
 Glasgow Medical Journal,—August, November.
 Journal de Médecine Mentale,—July to Sept.
 Journal of Anatomy and Physiology,—November.
 Journal of Cutaneous Medicine,—October.
 Journal of Mental Science,—October.
 Journal of the Gynecological Society of Boston,—July, August.
 Journal of the Royal Agricultural Society of England,—No. 10.
 Journal of the Scottish Meteorological Society,—April, July.
 Klin. Monatsblät. für Augenheilkunde,—June.
 Liverpool Medical and Surgical Reporter,—October.
 Madras Quarterly Journal of Medical Science,—October.
 Medical Press,—August 4 to November 24.
 Medical Times and Gazette,—July 31 to November 20.
 Medizinische Jahrbücher,—Band xvii., heft 3; Band xviii., heft 4, 5.
 Monatsschrift für Ohrenheilkunde,—Nos. 7 to 10.
 Monthly Microscopical Journal,—August, September, November.
 Nederlandsch Archief voor Genees- en Natuurkunde,—Deel IV., 5 Aflevering.
 New York Medical Journal,—July to November.
 Philadelphia Medical and Surgical Reporter,—February 20 to November 6.
 Practitioner,—August to November.
 Revue des Cours Scientifiques,—Nov. 6.
 Revue de Thérapeutique Médico-Chirurgicale,—Nos. 15 to 22.
 Vierteljahrsschrift für die Praktische Heilkunde,—Zweiter Band, Dritter Band, 1869.
 Virchow's Archiv,—July, August.
 Wochenblatt der Aerzte in Wien,—Nos. 25, 33, 37.

